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COMPREHENSIVE PLAN VOLUME II

ENVIRONMENTAL RECONNAISSANCE INVENTORY

Eastern Band of Cherokee Indians

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The Environmental Reconnaissance Inventory of the Eastern Band of Cherokee Indians is the element of the Tribe's Comprehensive Planning Program which identifies resources and amenities of local, state-wide or national significance that should be preserved, protected or approached with careful deliberation in the planning, development, and management of natural, economic, and cultural resources.

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ENVIRONMENTAL RECONNAISSANCE INVENTORY

EASTERN BAND OF CHEROKEE INDIANS

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INTRODUCTION

Environment is understood to be all external and physical conditions that affect the well-being of man and other life, both animal and vegetable, of which man depends upon and for which he cares. The well-being of man in such a context involves his health, comfort, and aesthetic susceptibilities.

This Environmental Reconnaissance Inventory serves the purpose of identifying and locating resources and amenities (both natural and man-made) which comprise the Eastern Band of Cherokee Indians' physical, biological, and cultural elements which are of local, statewide, or national significance, and which should be preserved, protected, or approached with careful deliberation in the planning, development, and management of natural, economic, and cultural resources.

The homeland of the Eastern Cherokees is one of the most beautiful sections of the country. The Qualla Boundary adjoins the Great Smoky Mountains National Park, some of the highest mountains east of the Rockies and the oldest in North America. The clean mountain streams, falling through rocky creek beds to the Cherokee Village are numbered among the few remaining natural resources unpolluted by our age of technology. And, the Cherokees are determined that the environment will not be threatened, and that progress will be made but not at the expense of their innate harmony with nature.

Of the ten sections of this inventory, nine deal with amenities and one deals with an element of pollution, the only one we were able to identify, excluding pollution by the tourists during the tourist season. Areas of critical sedimentation and erosion have been identified (excluding roads and road banks) and all are related to construction of individual homes, camp grounds and business related developments. Although these areas warrant attention, there is little reason to believe they will not be attended to. Our recommendation is that Council could require earlier seeding and planting by developers and thus reduce the loss of soil through erosion and eliminate sedimentation in the streams.

A group of college students, recently touring the Reservation remarked, "How clean everything is, not a piece of paper can be seen anywhere on the ground, there is no litter... how do they keep it so clean?"

> "It is ironical that today the conservation movement finds itself turning back to ancient Indian land ideas, to the Indian understanding that we are not outside nature, but of it."
>
> Stewart Udall

A section has been included in the report on the Early History of the Cherokees to bring into awareness the rich historical background of the Eastern Band of Cherokee Indians. Another section, "Glossary of Terms", was included for the purpose of making available to the Tribal Government, the Indian names of various geographical locations as well as other Cherokee Indian terms, that they may be restored and preserved.

THE ENVIRONMENTAL FRAME

The natural environment of a people is divisible into several sets of influences, depending on the type of material concerned. The terrain, climate, minerals, plants, and animals are all conceivable as types of unified influences helping to give order to a peoples' culture. The factors arising from the terrain comprise such characteristics as the surface configuration of land, the distribution of surface water in rivers, lakes, or ponds, the sites of settlements, trails, and the human orbit of activities.

Location

The general locus of the Cherokee tribe was by States - western North Carolina, South Carolina, Virginia, and West Virginia; the north of Georgia and Alabama; all but the western parts of Tennessee; and parts of Kentucky adjoining Tennessee. During the nineteenth century Cherokee Indians settled at various times in Ohio, Virginia, Missouri, Arkansas, Oklahoma, Texas and even in Mexico in Jalisco near Lake Chapala. The eastern part of the Cherokee domain was part of the Southern Piedmont Province, a gently rolling plateau dissected by rejuvenated streams with valleys from 50 to 150 feet deep. Numerous monadnocks and isolated peaks rear their heads over the surrounding areas. This was the territory comprised in the Lower Settlements. The central area of the Cherokees, comprising the kituhwa (middle) and the Valley Settlements, was the heart of the tribe. This area lay within the Blue Ridge Province and comprised the slopes of the Unakas or Great Smokies (with spurs such as the Snowbird and Balsam ranges) and the numerous coves and flat-bottomed valleys nestling to the south of the main range. Finally, on the north, and west lay the Overhill, or Tennessee Settlements, in the Appalachian Great Valley Province with river valleys from 50 to 500 feet deep, in a region predominantly of a gently rolling character.

The chief rivers of the Cherokee area flowed out from the great central watershed in three directions, viz. southeast to the Atlantic Ocean directly (Chatooga-Tug-Aloo and Keowee affluents of the Savannah); south and southwest to the Gulf of Mexico direct (Coosa and its affluents, the Oostanaula and Etowah; Chatahoochee and its affluents); west by north to the Ohio River drainage (Little Tennessee and its affluents, the Tuckaseegee and Nantahala, the Hiwasee and its affluent, the Valley River).

At the time of earlier contacts with the whites, the Cherokee town sites were grouped in four main divisions, namely: (1) Lower Settlements on the upper tributaries of the Savannah River in what is now South Carolina; (2) Middle Settlements or Kituhwa lying to the north of the Lower Settlements on the easternmost reaches of the Little Tennessee and Tuckaseegee Rivers in North Carolina between the Cowee Mountains and the Balsam Mountains; (3) Valley Settlements in extreme western North Carolina along the Nantahala, the Valley River, and the Hiwassee; (4) Overhill Settlements north of the Unakas and south of the Cumberland Chain along the upper Tennessee and Lower Little Tennessee Rivers.

Later, in Revolutionary times, the whole Cherokee nation was pushed bodily southward into northern Georgia where a thriving group of settlements sprang up on the banks of the upper Coosa tributaries such as the Oostanaula, Coosawattee, Etowah, Chatooga, and the Little River.

After the removal of the Cherokee Nation to Oklahoma in 1838 only fragmentary remnants of the Valley and Middle Settlements were left. The numerous branch creeks along the Valley River sheltered small groups until quite recent times. The upper reaches of the Cheowa River and its branches - Buffalo Creek, Santeetlah Creek, the Snowbird River, Little Snowbird Creek and others - were the sites of a cluster of settlements. This was called the Graham County group. The damming of the Cheowa River and the formation of Lake Santeetlah has done away with habitation sites for all of the groups in this region except those on Buffalo Creek West and Little Snowbird Creek.

By far the largest and most important of the remnantal Cherokee groups: after the removal of the Cherokees to Oklahoma were those clustering around the juncture of the Ocona and Tuckaseegee Rivers near the old settlements of Kituhwa in the heart of the old Middle Settlements. With the exception of the "Thomas 3,200 acre tract" along the east and west slopes of a ridge south of the Tuckaseegee most of this group is settled along the axis of the Ocona River and its tributaries in what was early known as "The Qualla Boundary", but which is now called simply "The Eastern Cherokee Reservation". This area consists of five towns, presently known as Birdtown, Yellow Hill, Big Cove, Painttown, and Wolftown. In Graham County, the Tribe owns 25 tracts and in Cherokee County another 25 tracts of land. These pitiful remnants contrasts with the 64 villages mentioned by Adair in 1775 and the 43 mentioned by Bartram in 1790.

At the time of the earlier white contacts with the Cherokee there were some seven main groups of trails or means of access to this area. These were as follows:

1. A group of trails running north to the Kanawha and Big Sandy Rivers.
2. A group of trails running north through the great valley to Pennsylvania.
3. Trails running northeast and east to the Tidewater in Virginia and North Carolina.
4. Trails running down the Savannah to tidewater in South Carolina.

5. Trails leading south and east to the Chattahoochee and Coosa valleys of Georgia.
6. Trails westward along the Tennessee River and others through Tennessee,
7. Trails running northward through Kentucky to the Ohio

Through trail group 1. the Cherokees had contact with the Mingoes, Iriquois, and Shawnees; through group 2. they contacted with the Senecas, Mohawks, and Delawares; group 3. connected them with the nearly related Tuscaroras, the Catawbas, and the Eastern Siouans; group 4. with the Uchees, Cheraws, and others; group 5. with the Creeks; group 6. with the Chickasaws, Shawnee, Choctaws, and Natches; and group 7, with the Shawnees. It was through trail groups 2, 3, and 4 that the westward rolling stream of white population first connected up with the Cherokees, but it was not until whites had crossed the mountains and attacked the Cherokees in the rear through trail groups 6 and 7 that the latter were finally subdued.

Although parts of the Tennessee Valley were scarcely 600 feet above sea level, the major part of the ancient Cherokee domain is above 1,200 feet in elevation and considerable areas over 3,000 feet, especially in the present-day settlements along the steep sides of the Oconaluftee River Valley.

The Cherokees had a vigorous reaction to the terrain in which they found themselves. Materially this took the form of (1) numerous footpaths and trails leading over mountain gaps and through stream valleys, (2) villages - consisting of aggregation of square boxlike houses of poles clustered around large heptagonal town houses set on mounds or clearings with maize-bean crops growing on them, (3) chunky yards and ball grounds - large flat areas cleared for the games, (4) stream weirs and dams impounding the swift mountain torrents into quiet ports for fishing, (5) stone cairns, (6) mounds for burials, (7) stockades, and (8) canoes and dugouts on the larger streams and other constructions. Less obviously visible, this reaction to the terrain took the form of an elaborate toponymic system connecting with plants, animals and the general mythology of the tribe. Origin myths for many place names are to be found in Mooney. Probably every mountain, open level area, cave, stream, and such had a name, and this terminology, if completely recovered, would comprehend fairly well the totality of factors arising from the terrain involved in Cherokee culture.

The terrain, then, furnished the orbits for the revolution of the cultural elements of Cherokee life about their central factor, the individual. It furnished the routes for diffusion of cultural elements and for contacts. It furnished the protecting walls which enabled elements of Cherokee culture to survive to this day. It afforded the necessary basis for the growth of the various factors of reaction or environment mentioned in the above paragraph. Finally, the terrain formed the foundation on which could grown the other factors of plant, animal, and climatic influences.

Climatic Factors

The climate of the Cherokee Country furnishes functional influences allied with the topography and the latitude. The area has essentially a mild, temperate climate. In the winter the sun is capable of heating the surface of the mountain slopes to around 50° to 60° Fahrenheit at midday even though a temperature of 15° to 20° above may be recorded during the night. In the summer midday temperature of around one hundred will be succeeded by a night temperature of 35° to 40° Fahrenheit. Some 9 hours of daylight in the winter are succeeded by about 13 hours in the summer. Seasonal variation in temperatures in the mountains is not as great as the diurnal variation since the average Fahrenheit temperature of July is 80° and that of January is 40°. On the high mountains the moon and stars shine brilliantly at night through unpolluted sky and the burning sun beats down mercilessly by day. The average barometric pressure is slightly higher in winter (30.15 cm.) than in summer (30 cm.). The winds in winter are prevailing north to south and southwest to northeast in summer. On the high mountain slopes there are few winds save during storms. A high wind can appear and disappear in a remarkably short time.

Air humidity varies with the elevation. In winter the rain precipitation is 40 inches or more in the high mountains, 30 to 40 inches in the semi-high areas, and 20 to 30 inches in the remainder. In winter, especially, the wispy cotton-like masses of clouds billowing against heavily wooded mountain slopes appears weird even to the chance outside observer. Ziegler and Grosscup mention the uncanny foreboding which afflicts the traveler in the high mountain country when he sees the dark glens and steep uncouth declivities of the higher ranges. What must have been the effect, then, on the superstitious mind of the native-born Cherokee in earlier times?

In summer this region wears on the whole a more genial aspect. In the high mountains the rainfall is 30 to 40 inches and about 20 to 30 inches in the remainder. Storms are fewer and of shorter duration in the summer. The lightening is an object of great attention on the part of the Cherokee mythology and is connected with the daylight. Such local phenomena as landslides, earthquakes, and floods do not appear in the mythology as of much importance. It would be instructive, if some way of measuring the process could be devised, to ascertain the effects of change of locale of residence from the higher to lower elevations on the ideas and cultures of the more recent western Cherokees.

The climatic factor consists primarily of a rythmic or cyclic set of influences operating to produce a seasonal effect on the culture. The regular repetition of these influences constituted a unifying factor of tremendous importance in the tribal life. The alteration of moon and no moon (occasions for special monthly rites), of winter and summer (ceremonial and nonceremonial seasons), plant sprouting and ripening (rites and dances at planting and harvest), and other events serve as examples.

The reaction of the Cherokees on the natural forces of the climate are to be found in their uses of fire, smoke signallying, divination by sunlight through crystals, gazing at the sun as a shaman training ordeal, imitation of the noises of nature in the hunting of animals, rites to control the weather, cosmogonic wonder tales, and the intimate linkage which they made between the celestial phenomena and health or disease. Curious linkages also occur of waterfalls with thunder and of snakes with lightning.

Inorganic Elements

The chemical constituents of the earth's crust entered into the Cherokee culture in various ways. Quartz crystals were used in divining the future, flint and chert were used in the manufacture of cutting tools and weapons, various river clays were used in pottery manufacture, red hematite powder from certain hillsides was made into pigment for face paint (connected here with one of the clans), white clays were also made and used for pigments, steatite was used for pipe carving and the heavier ferromagnesian minerals were shipped and ground into axes, celts and hammers, slates into ceremonial pendants and gorgets, and so on for many, others of the natural minerals of the hill country.

Water had a tremendously important role in Cherokee culture. Aside from its practical value for drinking and fishing, as a place to stalk game, as a means to travel by canoes, it played an indispensable part in ritualistic bathing, in divination, and as a base for decoctions of medicinal plants. The present Cherokees claim that in the autumn when all of the trees seem to be dropping their leaves and many of these find their way into the streams, the latter have an especial curative value. This is owing to the mingling of all the curative properties of different plants in one big decoction for the season of the medicine dance.

Flora and Fauna

The flora of the southern Appalachians belongs phytogeographically to the three plant worlds. These are (1) the Appalachian Mountain district of deciduous forests, (2) the Piedmont vegetation and (3) the Alleganian-Ozark district. The general characteristics of the first area are: A predominance of hardwoods such as poplar, pine, spruce, balsam or fir, hemlock, buckeye, tulip-tree, chestnut, and birdseye maple along with many species of herbaceous plants and cryptogams. The second area is one largely of undergrowth and herbaceous species. The third area is marked by a great variety of broad leaved trees of some 700 species and a scarcity of evergreens.

Plants appear in the Cherokee culture in connection with food, shelter, clothing, and medicine. Compared with the animals in general, plants are friendly agents to man and fight in this way against their enemies, the animal world. They especially help man through their curative properties for the human diseases believed to result from the machinations of animals. According to Mooney some 800 species of plants were known and used by the Cherokees.

Most important of the cultivatted food plants were maize and beans, to which were added at a later date potatoes, pumpkins, peas, squash, strawberries, tobacco and gourds. Weeds from streams were burnt for lye, which was then used as a salt substitute and for soap making. Wood served a wide variety of uses. Houses of poles were the earliest type known and these were later supplanted by the log cabin of the pioneer white settlers. The log cabin had become the common type of dwelling among the Cherokees by the period of the American Revolution. In the nineteenth century plank or frame houses gradually supplanted the log cabin, which is now very rare. Wooden artifacts are numerous and wood working is highly regarded. Various bark and herb fibers were used as twine and for weaving a certain type of garment. The typical medicinal plants are sassafras, cinnamon, wild horehound, seneca, snakewood, St. Andrew's Cross, and wild plantain.

Zoographically, the Cherokee area belongs in the Alleghany subregion of the North American or Nearctic Region. The characteristic native mammals of the area are bats, moles, shrews, racoons, skunks, weasels, otters, bears, wolves, foxes, wild cats, panthers, hares, porcupines, groundhogs, beavers, rats and mice, squirrels, bison, deer, opossum, and a native dog. The descriptions of these species and the explanation of techniques for dealing with them forms a substantial section of Cherokee myth and folklore.

The bird species of the area are especially diversified and numerous. Among the more important can be mentioned tanagers, larks, finches, buntings, creepers, woodwarblers, pipits, nuthatches, kinglets and goldcrests, swallows, hummingbirds, owls, buzzards, hawks, woodpeckers, cukoos, kingfishers, eagles, ospreys, vultures, cormorants, pelicans, geese, ibeses, storks, herons, cranes, plovers, quail, wood cocks, snipes, sandpipers, grebes, doves, rails, coots, and pidgeons. It was taboo to kill some species of birds, but many types were snared by various means or shot with blow gun or arrow. Along with quadrupeds, birds were closely connected with clan names.

Especially important in the medicinal mythology of the Cherokee were the reptiles and amphibians. In this group were the rattlesnakes, copperheads and other snake species, the lizards, skinks, glass snakes, iguanas, turtles, frogs, toads and salamanders.

The rivers and streams of the early days, before the chemical plants of the white man began using them for waste-product dumping places, abounded in fish such as perch, croakers, bass, pike, catfish, garfish, salmon, trout and sturgeon. Many species of shellfish were also to be found. In Cherokee mytholody fish, as well as guadruped and birds, cause disease in man.

The insect world was not neglected in the Cherokee mythology. The warlike proclivities of the ants interested them greatly as did also the ways of the butterflies, beetles, crickets, flies, bugs, dragonflies, bees, and wasps. Among the lower animals worms were considered an important source of disease of man.

In summarizing the utilitarian effects of animals in Cherokee Culture it is worthy of note scarcely any animal was domesticated in the older days. The dog appears to have been tamed and possibly the bee, and turkeys were kept in captivity when young. The chief pursuit of the Cherokee men in the older period was the hunt. The principal objects of the hunt were bears, deer, bison, elk, beaver, turkeys, wild duck, and geese. These animals were hunted for food and for their hides, teeth and bones. Anciently, also mollusks were gathered for food and for shell working and decoration. Fishing was seasonally very important in the Cherokee economy.

Among the ceremonial and nonutilitarian aspects of animals we note the important part played in mythology and love. Intimately connected with the causation and cure of disease they were also linked with clan names, with mimetic dances, and education. The mimetic dances seem to have been connected with success in the hunt. Animals were conceived of as being organized like the Cherokees into clans and tribes with council houses and village settlements. The relationship between the Cherokee and animal species took on the character of international relations in which wars were waged, blood revenge was demanded and secured, alliances were contracted and dissolved, and peace declared. The prime objects of Cherokee raids on the animal world took on the same character as plundering raids on other tribes of Indians, the only difference being that, in relation to the animals, the plunder was the body of the animal itself and that magic played a major part in the warding off of blood revenge and successful capture in the latter case.

Ecology of the Cherokees

The tribe had a special adaptation to the Blue Ridge Physiographic Area. Settlements were elongated and strung out on river banks for considerable distances with little more than a few acres of level land in river bottoms. As in every case of tribal reaction to environment, there were two aspects visible in the ecology, namely: (1) An antecological aspect, or the means adopted by the tribe to adjust itself to immediate natural environment, and (2) The synecological aspect, or the means adopted whereby the tribe might adjust itself to other tribes, i.e., trade, theft, war, and predatoriness. Within the tribe each community or settlement had a corresponding autecology and synecology although the two tended to coincide in view of the relative homogeneity of the environment. It is through the tribal synecology that we find the existence of so-called "trade artifactors", or objects used by a specific tribe which could not possibly have been made by this group (or the material of which could not possibly have been from the territories of this particular tribe). Thus, in one instance only the material may be foreign, in another both technique and material are foreign. In the catalog of material artifacts at least four categories can be distinguished: (1) Native articles made by native techniques of native materials, (2) Native articles made by native techniques of foreign materials, and (3) Foreign articles made by foreign techniques of foreign materials, and (4) Foreign articles made by foreign techniques of native materials. This came into great importance, especially in the distinction of marine from fresh water shells and their working.

The sphere of activities of the tribal members in relation to the environment ought to be noted as follows: (1) The wildcat activity was war, which took the males far afield out of the normal habitat; in the case of the Cherokees as far north as the Ohio, as far west as the lower Tennessee, or even Mississippi River, and as far east as the Atlantic Coast. The exaggerated land claims of the Cherokees, Chickasaws, and other tribes were undoubtedly based solely on the exploits of war parties in traveling immense distances, and resemble the claims of nations to uninhibited tropical jungles or barren polar ice fields. (2) The next widest activity was hunting, which seemed hardly to have acquired the constancy of location characteristic of the northern Algonkians and often took members of the tribe great distances along rivers or valleys or mountain ridges in search of game. (3) The next activity, that of land cultivation and utilization, was not as extensive as the first two activities mentioned. It corresponds roughly with what we understand as the true habitat of the tribe and consisted invariably of river bottoms or nearby slopes. There was generally here, as well as in the next category of activities a primary and a secondary type habitat. Examples of this form of Cherokee habitat are (a) Blue Ridge primary habitat, (b) Piedmont or Valley Provinces as secondary habitat. (4) The last of the sphere was the actual habitation area or site settlement. These latter are of course, our primary concern as the nuclei of tribal life, which can still be discovered and described by archeological techniques. (Many of these sites are scheduled to be destroyed (1976) by the Tennessee Valley Authority's Tellico Dam Project.) The trade relations of a tribe are difficult to fit into any of the foregoing categories. They might be said to constitute an elemental form wider than any other of the foregoing spheres. Trade relations are, however, of different sorts, direct trade or indirect trade (trade through intermediaries). The indirect trade extends spheres of trade interaction to virtually continental dimensions.

In the Southeast considerable attention has been directed to the Eastern Siouans, Choctaw, and Chitimacha as primary trading groups who acted as intermediaries between tribes living in quite different environments in the exchange of products.

Undoubedly the development of peaceful trade largely accounts for the building up of the entire material culture of the Southeast. Elements became known first through intermediaries, then directly, and finally are produced by the tribe itself. Thus, a regular series of stages in growth is observed. Trade is probable whenever there are possibilities of contact with foreign groups. War enters in as a factor to counteract trade activities and to differentiate major social groups. The line of warlike relationships is generally the dividing line between major political groups, or confederacies. Thus, we find Cherokee vs. Chickasaw, Cherokee vs. Creek, Chickasaw vs. Creek, etc. In some instances "civil" wars occurred within poorly organized areas as in the Timucuan region, the Eastern Siouan area, etc. This latter occurrance was rather unusual and clan blood revenge took care of most troubles within these social bodies. Thus, we have the antithetical intertribal relations of trade and war.

These constitute the synecology of a tribe. Within the tribes hunting, soil cultivation, and habitation activities might be said to constitute the autocology. Hunting among the Cherokees was the practice of specialists and we know very little about it. The habits of animals were carefully observed, compounded with magical practices derived from myths, and so "formulas" were developed and monopolized by the specialists. This lore has, unfortunately, been lost to a large extent. We know much more about soil cultivations, and the divisions of labor involved therein between the sexes. In common with most of the Southeastern tribes, the Cherokees were primarily sedentary agriculturalists, not migrants, and hence we can pin them down to definite areas, We know the plants cultivated, the supplementary wild plants used in times of scarcity, and much of the mythology and magic connected therewith. The final group of activities connected with habitations, eating, sleeping, physiological events, and the accompanying ritual are fairly well recorded in literature.

At this point a word must be said about culture change and environment. None of the activities heretofore mentioned make for a static cultural situation. As a result we have to catch our culture traits on the run, so to speak, and hope that observers of some contemporaneousnes will record a definite picture. Cherokee material culture was a very evanescent thing. New techniques were constantly in process of adoption and old ones of being discarded. The result is evident in such things as pottery. Until quite recently, no one could definitely say what Cherokee pottery was at the time when the mounds were built. The archaeological excavations underway on the proposed Tellico Reservoir area are determining much of the character of Cherokee acculturation in this, the Overhill region. The early observers omitted the description of such fine points as basketry techniques or weaving of clothing. Hence, present-day basketry is a mystery. Likewise the stone tools, both chipped and polished, were given absolutely no attention by ethnological writers. In hardly any sphere of material culture and especially in food preparation, clothing, manufacture and use, and house construction it is possible to derive a great deal of suggestion or helpful data from ethnological writers on the Cherokees for interpretation of present-day archaelogical finds. The lack of written material, therefore, needs further emphasis on the value of the work being conducted by the Department of Anthropology of the University of Tennessee, Knoxville, Tennessee, in their efforts to discover, analyze and interpret Cherokee history. This is so potently important that site analysis of the known historic Cherokee settlements, particularly those before mentioned that are threatened, be preserved until these known sites can be adequately explored. The Cherokees were possessed, let it be emphasized once more, of an especially dynamic culture whose composition was the result of diverse contacts and frequent changes of the old for the new.

Among the items connected with environmental adaptation is the use of plants for medicines. Undoubtedly the Great Smokies is one of the richest areas in North America in varieties of plants from which the Indian could make his decoctions for specific ills. Perhaps it was the attraction of this type which originally induced the Cherokees to settle in their rather inhospitable and inaccessible mountain homes.

The Cherokee area of eastern Tennessee, in common with the other surrounding regions, was one furnishing a fundamentally nonvegetable diet of deer, turkey, bear and fish. The deer is an animal preferring open glades in mixed forest-grassland areas and eats grasses, shrub leaves, tree leaves, aquatic plants, and acorns. Besides being eaten by man, it is eaten by cougar, wolf and wildcat. The bear is an omniverous eater of grasses, fruits, berries, ants, honey, small mammals and birds, fish, frogs and carrion. It prefers thickets more than the deer.

It must be emphasized that food-chain relationship between animals and man are established habits and are fairly consistent over long periods of time. The dietary habit of the Cherokee tribes of this area, then, conjoined with known ecological areas, is a fundamental key to the early distribution of the Cherokee aborigines.

A great majority of the existing archaelogical sites of the Cherokee area occur on rivers. This is particularly the case in eastern Tennessee. Here the best places for cultivation were canebrake areas because the cane stalks could be easily pulled out by their roots from the ground and the latter thus cleared for crops. (Excavations on the Tomotley site are now uncovering definite patterns, a two over and two under, of woven cane in the remains of a Cherokee house that had burned, probably the charred remains of a mat used for a bed). Maize, being likewise a grass plant, probably flourished in this environmnet, There are no native grass lands in Tennessee excepting the high mountain balds. On the whole, the forest areas were not suitable for cultivation since the trees obscured the sunlight necessary for crop growth and took up the better part of the space suitable. The clearing of such land was a task of considerable magnitude with stone implements.

The location of settlements in the lower valleys made them susceptible to flooding by the rivers and this insecurity frequently lead to hasty vacating of the town. In one site in Hamilton County, Tenn., T. M. N. Lewis found a layer of river silt between two distinct strata of cultural remains. Characteristic also of the low-lying areas was the hunting of small animals whereas the larger game animals were hunted in the mountain areas back from the river generally. This came to be especially true at a later date when game was becoming more scarce through the use of guns and white man's techniques. The modes of stalking and hunting game have reported in much detail for the Cherokee area. Animals may have been secured when they repaired to springs or other such drinking places and at salt licks.

The types of available materials and their uses reflect physiographic environments. The river bank emphasis is shown, for example, in the many uses of shells for decoration and utensils, the extensive use of cane for basketry and for blowguns, the use of cane for thatched dwellings or even for walls, the use of cane in fire making, the ritualistic importance of the river, the great emphasis on fish food, and, finally, the divisions of groups of settlements into localities by particular river habitats. On the other hand, the occasional use of small trees for houses, particularly large ceremonial structures, the dugout canoes, and the extensive use of bark fiber for clothing and basketry point to the supplementary use of the forested areas of the high slopes back from the rivers. Chipped and polished stone tools are also secured in quaries which are generally at a distance from the streams. Again, as has already been indicated, the character of the animals used reflects physiographic areas insofar as these animals have known habitat preferences.

It has been noted that major tribal groups are frequently located on small tributaries of larger streams rather than on the major river courses. Thus, the early Choctaw sites were mainly on small tributaries of the Tombigbee River, the early Chickasaw on small branches of the Tombigbee, Big Black, and Yazoo Rivers; in the case of the Cherokee, on the smaller branches of the Tennessee River and the Savannah River. In this connection, of course, it is very likely that the military value of back positions away from main traveled routes was of protective significance.

Locations again frequently occur at transition points between two distinct types of physiographic developments. For example, the Creeks were located on the fall line between the Coastal Plain and the Piedmont, as were also the Eastern Siouans. The Cherokees appear to have located on the border lines of the Piedmont and the Blue Ridge Provinces in part and on the border between the Appalachian Great Valley and the Blue Ridge for the remainder. An even more obvious case is furnished by the tribes on the coast proper, such as the Chitamacha of Louisiana, who traded on the advantage of having both land and sea products to use. In a sense the Cherokees were a peripheral group insofar as they were in the Blue Ridge Province, the sole inhabitants apparently, whereas in the Piedmont and Great Valley Provinces they were in competition with other tribal groups. The more favored areas from the cultural standpoint in early days were the regions such as the Piedmont-Coastal Plain transition wherein trading peoples developed.

A few words should be said regarding the mountain balds. These clear grassy spaces on the ridges of high mountains were not used by the Cherokees, but were superstitiously avoided. As before mentioned, ritualistic use of rivers prevented settlement very far away from the valleys even though the balds did furnish springs. The openness of the balds together with the presence of springs seem to have attracted a considerable number of game animals, especially deer. Apparently at some early date the balds were resorted to by Indian groups since projectile points have been found in them. It is possible that the balds may have been used to drive game into the open yet it seems unlikely that they were created by the burning off of original forested areas for this purpose. Nor were they likely to have been burnt off by early man for settlements purposes. Their inaccessibility and exposed location are disadvantages for any type of permanent settlement. Most likely the mode of their creation was by natural soil factors.

Several lines of evidence go to prove that, in the main, the primary adaptation of the Cherokee was to a farily high elevation. There is first, the evidence furnished by the Cherokee themselves and, second, the evidence furnished by their cultural and linguistic relative, the Iroquois and Caddo.

In the first place, there is the fact of the existing location of the Cherokees of the east in the high mountain areas of the Blue Ridge Province. Their expressed preference for this habitat is quite marked even at the present time. The mere threat that the United States was planning to remove the final remnant from their beloved mountain homes several times in the nineteenth century almost created a panic. Divinations, magical prayers, and other devices were resorted to by the conjurers to prevent this anticipated calamity. Various ideas still circulate that the lowlands of Oklahoma are unhealthy and cause Cherokees to sicken and decay. When the first emigrant Cherokees removed from their original Appalachian home in the late eighteenth century to the west, their first sites of settlements were in the Ozarks, on the slopes of the Boston and Ouachita Mountain ridges of Arkansas. These areas furnished an environment most like the original habitat in the east. Later the Cherokees were forced by pressure from the whites into the northeastern hilly section of Oklahoma. Those Cherokees who went to Mexico found, after a temporary sojourn in the Rio Grande Valley, a permanent home in the highlands of Jalisco near Gaudalajara and Lake Chapala.

The original four groups of settlements of the Cherokees were all, except one group, in the highland area of the Appalachians. The single exception consisted of the Lower Settlement group of South Carolina, which seems to have located exclusively in the Piedmont. This group of settlements disappeared so early before the advancing tide of European settlers that we have scant knowledge as to its character. There is some evidence that this region was inhabited by Siouans or Yuchi at the time of the earliest explorers and was later conquered by Cherokees from the north.

Finally, there is the evidence furnished by kindred cultural groups. The original sites of Iroquois settlements appear to have been exclusively confined to the high plateau areas of southern New York and northern Pennsylvania and it is only within the historic period itself that we find them settling in the lake valleys with which the tribal names have come to be indelibly associated. The stockading of bluff sites continues in the new habitat of the lowland areas; beside the lakes and rivers of central New York. Apparently both the Iroquois and the Cherokee are found sharing a preference for highland life when we first glimpse them. The Caddoan Tribes, likewise, although more plainslike than forestlike, in many respects show an original preference for the highlands of the Ozarks when we first hear of them. Later they find secondary adaptation, like the Iroquios, to lowland areas.

The Cherokee evnironment was a highly variegated one owing to the close juxtaposition on steep mountain slopes of diverse altitudinal assemblages of plants and animals. This variegation was probably a stimulant to local trade and cultural interrelations. Although communication in this rough topography was difficult, nevertheless we find a vigorous and a dominant people whose influence on the whole of the Southeastern Woodlands area was quite marked.

SOURCE: Anthropological Papers, No. 23, From the Bureau of American Ethnology Bulletion 133, pp. 169-143, pls. 13-17

GEOLOGICAL CHARACTERISTICS

Overview

In broad detail, the Reservation area lies in the southeast quadrant of the Great Smoky Mountains and is characterized by moderately steep rugged mountainous terrain and relatively narrow winding river valleys.

The bedrock geology is quite complex and consists essentially of a mass of ancient clastic sedimentary rocks (principally quartz and silica rich conglomerates, sandstones and siltstones) which have been thrust horizontally in a north westerly direction up and over a basement complex of older crystalline rocks (principally granite, gneisses and pegmatites). Erosion has cut down through the "thrust plate" of sedimentary rocks and exposed the older under lying crystalline rocks in several places as large "erosion windows". A large occurrance of crystalline rocks extends northward from the Town of Cherokee more-or-less as a linear, intrusive-like, upwarped dome surrounded by crumpled off-dipping sedimentary rocks. Two other dome-like "erosion windows" of crystalline rocks are southwest of Cherokee, one of which underlies and surrounds Bryson City. Southeast of Cherokee are large irregular masses of crystalline rocks, with outcrop patterns suggesting cores or roots of fold mountains. The overlying mass of sedimentary rocks are characterized by low grade metamorphism and non-descript uniformity over large areas.

Mining History and Mineral Possibilities

No record of commercial mining within the Reservation boundary has been found, although building stone has been quarried intermittantly over the years in several places. The Bryson City area, only a few miles southwest of the Qualla Boundary, has enjoyed Feldspar production from pegmatite deposits for many years. The same crystalline basement rocks present in the Bryson City area are present through much of the Qualla Boundary area.

Though no mining is known in the Reservation, it is pertinent that Western North Carolina, in general, is noted for mineral wealth. Numerous localities have had commercial production of many commodities for many years. Accordingly, it seems reasonable that the Reservation area has been thoroughly walked over through the years (prospectors, deer hunters, fishermen, etc.,) and that most, if not all, conspicuous mineral prospects have been discovered and examined.

Summary

Mineral Fuels and Metallic Deposits; There is essentially no geological potential for the occurrence of mineral fuels or metallic mineral deposits anywhere in the Reservation area.

Non-Metallic Industrial Minerals: There is virtually no potential for the occurrance of the great bulk of non-metallic minerals as salt, limestone, gypsum, corundum, etc., anywhere in the area. However, the geological environment of the Reservation does provide a potential for the occurrance of mineral deposits associated with crystalline granitic rocks, especially pegmatite deposits containing commercial grade feldspar and mica minerals and possible the newly sought, valuable, rare earth minerals. In latter regard, it is pertinent that geologists for the Tennessee Valley Authority have reported (verbally) the presence of rare earth minerals in scattered pegmatites throughout the region..

Placer Deposits: Nothing is known concerning the mineral concentrations or values of heavy sand fractions of any of the area's river or stream deposits. However, so much reworked sediment is probably present that values of any monazite, thorite, zircons, etc., derived from the crystalline rocks, would probably be diluted and uneconomic.

Clay Materials: There is reasonable possibility that diligent search would reveal occurrance of adequate quality clay material for brick and similar clay product production somewhere in the Reservation area. It is probable, however, that the problems of transportation and market would rule out any such ventures. There would seem to be greater potential in locating material which would sustain small scale artisan production of ceramics, etc., for the tourist trade.

Construction Materials: Construction materials include building stone, ornamental rock, sand-gravel, and base rock fill. These commodities are readily available throughout much of the Reservation, but minor local demand and transportation cost to market centers rule out any large operations. Small scale intermittent production of these commodities should be possible in a number of places.

SOURCE: Preliminary Development Plan Report, Cherokee Indian Reservation, Cherokee, North Carolina - Wilsey, Ham and Blair

HYDROLOGIC COMPONENTS

All of the Cherokee Indian Reservation in Graham, Haywood, Jackson and Swain Counties lies in the Little Tennessee River watershed. Indian lands in the County of Cherokee are within the Hiwassee River watershed. Both rivers are tributaries of the Tennessee River.

Precipitation

The range in average annual rainfall over the watershed is from 47.25 inches at Cherokee (Qualla Boundary) to 90 inches near Coweeta in Macon County. Two stations that are only 27 miles apart; Cullowhee in Jackson County and Coweeta in Macon County have a 40 inch difference in average annual rainfall, Cullowhee having an average annual rainfall of 50 inches. Rainfall in Cherokee and Graham Counties is a considerable 15 to 20 inches more than the Qualla Boundary.

Growing Season Rainfall

The distribution of April - September rainfall over the subject area, based on records for the 30 years 1935-1964, were more uniform. Rainfall ranged from 24 to 32 inches. The heaviest growing season rainfall was 19.7 inches in 1954. In the critical irrigation period of June through August, the lowest rainfall was 11.0 inches in 1944.

Monthly Variations

On the average, March is the rainiest month and October is the driest. The wettest month on record was January 1947 when monthly totals ranged up to 17.76 inches at Santeetlah Gap and averaged more than 13 inches over the area; November 1948 was almost as wet. The driest month since 1935 was October 1963 when 13 stations in the Upper Little Tennessee River Region reported very small amounts of rain and 30 others had none. The average for this region was 0.03 inch. October 1938 was the previous driest month with an average of 0.15 inch. See Table #1.

PRECIPITATION (57 YEARS) IN INCHES

STATION - CULLOWHEE, NORTH CAROLINA

Through 1966

TABLE #1

		MAXIMUM		MINIMUM	
Month	Mean	Amount	Year	Amount	Year
January	4.33	10.66	1936	0.98	1951
February	4.36	10.21	1944	1.00	1941
March	5.02	11.94	1917	1.16	1910
April	3.63	7.53	1957	1.13	1915
May	3.56	8.90	1955	0.71	1926
June	3.80	8.14	1961	0.98	1924
July	4.72	10.47	1949	0.45	1957
August	4.04	11.40	1949	0.74	1925
September	3.24	7.90	1929	0.51	1933
October	2.84	8.70	1918	0.00	1963
November	2.80	9.95	1948	0.52	1924
December	4.33	11.93	1932	0.40	1965
Annual	46.67	66.45	1949	25.36	1925

Snowfall

Snowfall is generally not a significant part of the total precipitation in the subject area. Average annual depths at individual stations range from about eight to 25 inches and average 12 inches over the low-lying or valley area. The water equivalent is about one inch, or 2 percent of the annual precipitation. On rare occasions, annual snowfall of depths much greater than the average can occur. During the winter of 1959-1960, a series of snow storms produced record-breaking snowfall, totaling 32 inches in depth in the portions of the watershed which are below the elevation of 2,500 feet. Snowfall averaged 60 inches in depth at the 3,500 foot level, and ranged up to an unofficial 190 inches in the Great Smoky Mountains.

Droughts

Drought occurs when the precipitation does not provide sufficient moisture to meet the demands of evaporation and transpiration. Vegetation is affected when there is not enough available soil water in the root zone to provide the best growth by the plants.

Even with average growing season rainfall of almost 29 inches, drought causes damage to crops with surprising frequency because of poor rainfall distribution in the critical periods.

In 1957 a study was made by the Tennessee Valley Authority to determine the frequency of occurrence of drought-days at various locations in the Tennessee Valley. A drought-day was considered to occur when the available moisture in the soil reached a critical level for plant growth. This was estimated by a water-balance computation from rainfall and evapotranspiration data. This study covered the records for the 30 years 1927-1956 at 28 locations. Drought-days were determined for soil moisture capacities of 1, 2, 3, 4, and 6 inches of water within the root zone of crops. Soil moisture was assumed to be at a maximum on April 1st.

Table #2 lists the average number of drought-days in each month at those locations for a soil capable of holding three inches of available moisture in the root zone. Drought in April is of negligible consequence for such a soil. On an average about 10 drought-days or 55 percent of the total occur in June, July and August. Since the daily evapotranspiration requirement in these three months is about 0.17 inch, this means an accumulated shortage of 10 times 0.17 inch or 1.7 inches of soil moisture in this critical crop period. The number of drought-days in the driest year was about triple the average given in the tabulation.

CULLOWHEE, NORTH CAROLINA - STATION

AVERAGE NUMBER of DROUGHT DAYS

(Average for 1927 - 1956)

TABLE #2

Month	Average # of Drought-Days for 3 Inch Moisture Capacity in Root Zone
April	0
May	3
June	4
July	5
August	4
September	4
October	4
Total	24

Streamflow

The average yield of surface water in the Upper Little Tennessee River watershed is about 2.4 cubic feet per sedond or about 1.5 million gallons per day from each square mile of the watershed. The flow of the river in an average year would cover the whole 1,835 square mile watershed to a depth of 32 inches, equivalent to a volume of some 3,100,000 acre feet of water.

A large part of the annual volume of flow in the Reservation area occurs in the first quarter of the year, January through March. The runoff in these three months in an average year is 37 percent of the annual total. Flows decrease gradually after

March to a minimum; usually in September or October. There is a small recovery in November and a sizeable increase in December. The decrease in flow is only partially a result of decreasing rainfall, but is largely a result of increasing demands of evaporation and transpiration on the available moisture during the hot summer and fall months.

Flows of Gaged Streams

A. Oconaluftee River, at Cherokee

Period of record - 1921-1949

Drainage Area (sq. mi.) - 131

Streamflow in Average Year

- Average cfs - 384
- Per sq. mi., cfs - 2.93
- Depth or Area Inches - 39.8
- Total Volume, ac,.ft. - 278,000

Minimum Daily Flow

- Date - Sept. 9, 1925
- Amount, cfs - 56
- Per Day, 1,000 gallons - 36,200
- Per sq. mi., cfs - .427

Minimum 7 day Flow

- Amount, cfs - 58
- Per Day, 1,000 gallons - 37,500

Minimum 30 Day Flow

Amount, cfs - 64

B. Oconaluftee River, at Birdtown

Period of Record - 1945-1946, 1948

Drainage Area (sq. mi.) - 184

Stream Flow in Average Year

Average, cfs - 505

Per sq. mi., cfs - 2.74

Depth on Area Inches - 37.2

Total Volume, ac. ft. - 366,000

Minimum Daily Flow

Date - Oct. 16-22, 1954

Amount, cfs - 82

Per Day, 1,000 gallons - 53,000

Per sq. mi., cfs -.446

Minimum 7 Day Flow

Amount, cfs - 82

Per Day, 1,000 gallons - 53,000

Minimum 30 Day Flow

Amount, cfs - 92

C. Snowbird Creek, Near Robbinsville

Period of Record - 1942-1952

Drainage Area (sq. mi.) - 42.0

Streamflow in Average Year

Average, cfs - 159

Per sq. mi., cfs - 3.79

Depth on Area Inches - 51.4

Total Volume, ac. ft - 115,000

Minimum Daily Flow

Date - Sept. 28-30, 1952

Amount, cfs - 29

Per Day, 1,000 gallons - 19,400

Per sq. mi., cfs - .690

Minimum 7 Day Flow

Amount, cfs - 32

Per Day, 1,000 gallons - 20,700

Minimum 30 Day Flow

Amount, cfs - 35

The above three are the only locations on or near Cherokee lands that have been gaged.

Low Flows

Streamflow from some areas of the Upper Little Tennessee River watershed is poorly sustained during dry periods. Among the gaged streams, none have stopped flowing during the periods of record. The following listings give the lowest flow measured on a number of the ungaged streams on or near the Cherokee Indian Reservation. These records should be used with caution since there is no assurance that the discharge given is a minimum.

A. Snowbird Creek, Graham County

Location - 3.1 mi. west of Robbinsville, 0.5 mi. above Hoopers Branch

Lowest Measured Flow

Drainage Area, sq. mi. - 42.0

Date of Measurement - Oct. 20, 1954

Flow, cfs. - 19.9

Per Day, 1,000 gallons - 12,860

Per sq. mi., cfs - 0.47

B. Mingus Creek, Swain County

Location - Near Ravensford, at U.S. Highway 441, 200 feet above mouth.

Lowest Measured Flow

Drainage Area, sq. mi. - 4.70

Date of Measurement - Oct. 24, 1953

Flow, cfs. - 2.16

Per Day, 1,000 gallons - 1,400

Per sq. mi., cfs. - .046

C. Oconaluftee River, Swain County

Location - Near Smokemont, 0.6 mi. above Bradley Fork

Lowest Measured Flow

Drainage Area, sq. mi. - 20.1

Date of Measurement - 11/13/52 and 10/18/54

Flow, cfs - 11.6

Per Day, 1,000 gallons - 7,500

Per sq. mi., cfs - 0.58

D. Raven Fork, Swain County

Location - Near Ravensford, 0.2 mi. above mouth

Lowest Measured Flow

Drainage Area, sq. mi. - 74.3

Date of Measurement - Nov. 13, 1952

Flow, cfs - 34.0

Per Day, 1,000 gallons - 21,970

Per sq. mi., cfs - 0.46

E. Indian Creek, Jackson County (Pheasant Creek)

Location - 4.8 mi. east of Cherokee, 0.1 mi. above mouth

Lowest Measured Flow

Drainage Area, sq. mi. - 0.99

Date of Measurement - Sept. 29, 1961

Flow, cfs - 0.30

Per Day, 1,000 gallons - 195

Per sq. mi., cfs - 0.30

F. Soco Creek, Jackson County

Location - Near Cherokee, at mouth

Lowest Measured Flow

Drainage Area, sq. mi. - 45.3

Date of Measurement - Sept. 8, 1925

Flow, cfs. - 15.0

Per Day, 1,000 gallons - 9,690

Per sq. mi., cfs - 0.33

G. Washington Creek, Jackson County

Location - 4.5 mi. east of Cherokee, 0.3 mi. above mouth
at U.S. Hwy. 19

Lowest Measured Flow

Drainage Area, sq. mi. - 1.76

Date of Measurement - Sept. 10, 1962

Flow, cfs - 0.92

Per Day, 1,000 gallons - 595

Per sq. mi., cfs - 0.52

Mineral Quality of Surface Streams

The U. S. Geological Survey's Water Quality Branch describes the process of mineralization of natural water as follows:

> "All natural waters contain dissolved mineral matter. Water in contact with soils or rock, even for only a few hours, will dissolve some rock materials. The quality of dissolved mineral matter in a natural water depends primarily on the type of rocks or soils with which the water has been in contact and the length of time of contact. Most streams are fed by both surface runoff and ground water from springs or seeps. Such streams reflect the chemical character of their concentrated underground sources during dry periods and are more dilute during periods of heavy rainfall. Ground water is generally more highly mineralized than surface runoff because it remains in contact with the rocks and soils for much longer periods. The concentration of dissolved solids in a river water is frequently increased by drainage from mines or oil fields,

> by the addition of industrial or municipal wastes or ---irrigated regions---by drainage from irrigated lands."
>
> (U.S. Geological Survey Supply Papers, Quality of Surface Waters of the United States.)

Hardness is the characteristic of water that receives particular attention in industrial and domestic use. Hardness in natural waters is caused almost entirely by compounds of calcium and magnesium. Other constituents, such as iron and manganese, also cause hardness, although they usually are not present in quantities large enough to have appreciable effect. There is no commonly accepted dividing line between hard water and soft water. The Geological Survey usually considers water with less than 60 part per million of hardness as soft and waters from 61 to 120 parts per million hardness as moderately hard. A hardness greater than about 50 parts per million is undesirable in the textile industry because of possible precipitation of dyestuffs or soap-bound stains. A hardness of 150 parts per million is the maximum allowable for process water in the manufacture of fine paper, bleached kraft paper, and soda and sulfate pulps. Hard water is objectionable because it contributes to the formation of scale in boilers, water heaters, radiators, and pipes, with the resultant decrease in rate of heat transfer, possibility of boiler failure, and loss of flow. The following tables list the result of chemical analyses by the Tennessee Valley Authority or the U. S. Geological Survey of streams on or near Cherokee lands.

TABLE #3 MINERAL QUALITY OF SURFACE WATER
Oconaluftee River at Birdtown, N.C., Mile 0.1
Chemical Analysis in Milligrams per Liter

Date of Collection	July 18, 1945	Aug. 17, 1945	Sept. 13, 1945	Oct. 16, 1945	Nov. 19, 1945	Dec. 21, 1945	Jan. 16, 1946	Feb. 21, 1946	Mar. 15, 1946	
Mean Discharge (cfs	220	290	200	220	1510	410	990	680	830	
Silica (SiO_2)	9	8	9	5	6	5	8	9	7	
Iron (Fe) - Filter										
Ferrous										
Total										
Calcium (Ca)	2.6	1.8	2.0	1.8	2.2	1.6	1.0	.9	1.4	
Magnesium (Mg)	0.6	.8	.7	.7	.6	.9	1.0	.5	.4	
Sodium (Na)	1.4	1.2	.9	1.4	2.3	2.8	2.8	1.8	2.3	
Potassium (k)										
Bicarbonate (HCO_3)	7	6	6	5	6	7	6	5	6	
Sulfate (SO_4)	1.8	2.4	2.3	1.8	3.7	1.8	2.6	1.2	1.4	
Chloride (Cl)	2	1	1	1	1	1	2	1	2	
Fluoride (F)										
Nitrate (NO_3)	0.0	.0	.0	2.1	2.1	3.5	1.4	.0	.0	
Disolved Solids -	18	22	26	17	26	18	22	14	23	
180°C										
103°C										
Hardness as $CaCO_3$	9	8	8	7	8	8	7	4	6	
Specific Conductive Micromhos at 25°C										
PH (SU)	7.2	8.0	7.0	7.0	6.4	7.2	7.0	7.0	7.6	
Color (PCU)										

TABLE # 4 MINERAL QUALITY OF SURFACE WATER

Oconaluftee River at Birdtown, N.C., Mile 0.1 (Cont.)

Chemical Analyses in Milligrams per Liter

Date of Collection	Median	Maximum	Minimum							
Mean Discharge (cfs)										
Silicia (SiO_2)	8	9	5							
Iron (Fe)- Filtered										
Ferrous										
Total										
Calcium (Ca)	1.8	2.6	.8							
Magnesium (Mg)	0.7	1.0	.4							
Sodium (Na)	1.8	2.8	.9							
Potassium (k)										
Bicarbonate (HCO_3)	6	7	5							
Sulfate (SO_4)	1.8	3.7	1.2							
Chloride (Cl)	1	2	1							
Fluoride (F)										
Nitrate (NO_3)	0.0	3.5	.0							
Disolved Solids										
180°C	22	26	14							
103°C										
Hardness as $CaCO_3$	8	9	4							
Specific Conductive										
Micromhos at 25°C										
PH (SU)	7.0	8.0	6.4							
Color (PCU)										

TABLE #5

MINERAL QUALITY OF SURFACE WATER
Snowbird Creek Near Robbinsville,N.C., Mil 4.4
Chemical Analyses in Milligrams per Liter

Date of Collection	July 26, 1946	May 14, 1948								
Mean Discharge (cfs)	86	113								
Silica (SiO_2)	5.1	4.7								
Iron (Fe) - Filtered	0.01	.01								
Ferrous										
Total										
Calcium (Ca)	1.2	1.3								
Magnesium (Mg)	0.4	.3								
Sodium (Na)	1.8c	.9c								
Potassium (k)										
Bicarbonate (HCO_3)	7	6								
Sulfate (SO_4)	1.4	.9								
Chloride (Cl)	0.5	.4								
Fluoride (F)	0.2	.0								
Nitrate (NO_3)	0.2	.0								
Disolved Solids - 180°C	18	15								
103°C										
Hardness as $CaCO_3$	5	4								
Specific Conductive Micromhos at 25°C										
PH (SU)		7.0								
Color (PCU)	18	7								

TABLE #6

MINERAL QUALITY OF SURFACE WATER
Oconaluftee River at Birdtown, N.C., Mile 3.1
Chemical Analyses in Milligrams per Liter

Date of Collection	Oct. 15, 1949	Nov. 15, 1949	Dec. 15, 1949	Jan. 15, 1950	Feb. 15, 1950	Mar. 15, 1950	Apr. 15, 1950	May 15, 1950	June 15, 1950	July 15, 1950
Mean Discharge (cfs)	268	341	744	814	1100	1600	501	702	414	583
Silica (SiO_2)	7.7	6.5	6.4	6.7	7.7	6.7	6.6	6.6	8.4	7.9
Iron (Fe) - Filtered	0.02	.03	.03	.02	.02	.04	.02	.04	.04	.05
Ferrous										
Total										
Calcium (Ca)	1.6	1.5	1.6	1.7	1.8	1.7	1.4	2.0	1.9	1.8
Magnesium (Mg)	0.6	.4	.5	.5	.7	.4	.4	.6	.4	.5
Sodium (Na)	1.9	2.6	2.4	1.7	2.1	1.3	1.3	2.1	1.8	1.6
Potassium (k)	0.6			.6			.5			.5
Bicarbonate (HCO_3)	11	8	8	7	10	6	8	7	9	8
Sulfate (SO_4)	1.8	2.0	1.9	1.9	1.8	1.5	1.5	3.9	1.6	1.8
Chloride (Cl)	0.9	1.5	1.5	.9	.8	1.0	.6	.6	.6	.5
Fluoride (F)	0.0	.1	.1	.2	.1	.1	.0	.1	.1	.2
Nitrate (NO_3)	0.1	.2	.5	.3	.6	.8	.3	1.5	.4	.8
Disolved Solids -										
180°C	21	19	19	17	20	16	17	21	19	21
103°C										
Hardness as $CaCO_3$	6	5	6	6	7	6	5	7	6	7
Specific Conductive Micromhos at 25°C	21	17	16	16	16	11	15	19	17	17
PH (SU)	6.4	6.5	6.2	6.7	6.3	6.1	6.8	6.4	6.3	6.3
Color (PCU)	7	9	7	3	2	4	2	7	3	8

TABLE #7

MINERAL QUALITY OF SURFACE WATER
Oconaluftee River at Birdtown, N.C., Mile 3.1 (Cont)
Chemical Analyses in Milligrams per Liter

Date of Collection	Aug. 15, 1950	Sept. 13, 1950	June 6, 1955	Dec. 8, 1955	Nov. 6, 1956	Apr. 11, 1957	Nov. 7, 1957	May 5, 1958	Oct. 13, 1958	June 2, 1959
Mean Discharge (cfs	276	288	313	386	172	1140	214	828	148	800
Silica (SiO_2)	9.8	9.0	7.2	6.8	8.2	6.7	7.3	7.5	9.2	6.0
Iron (Fe)-Filtered	0.03	.02	.03	.04	.00	.01	.01	.00	.01	.07
Ferrous										
Total										
Calcium (Ca)	1.6	1.6	1.0	1.0	.9	1.2	1.4	1.2	1.5	1.3
Magnesium (Mg)	0.5	.4	.1	.5	.4	.5	.4	.4	.3	.2
Sodium (Na)	2.0	1.8	.9	1.0	1.2	.9	.7	1.1	1.6	1.0
Potassium (k)		.7	.7	.4	.5	.3	.2	.6	.5	.6
Bicarbonate (HCO_3)	9	9	7	8	8	5	8	7	10	7
Sulfate (SO_4)	1.5	1.4	.1	1.0	1.7	1.0	1.7	1.6	.9	1.4
Chloride (Cl)	0.6	.5	.4	.5	.7	1.0	1.3	.1	.4	.8
Fluoride (F)	0.1	.2	.1	.0	.0	.0	.0	.0	.0	.0
Nitrate (NO_3)	0.5	.2	.4	.2	.3	.4	.1	.4	.3	.6
Disolved Solids -										
180°C	21	19	14	15	18	14	17	16	20	15
103°C										
Hardness as $CaCO_3$	6	6	3	5		5	5	5	5	4
Specific Conductive										
Micromhos at 25°C	23	17	16	15	17	13	17	15	17	17
PH (SU)	6.1	6.6	7.0	6.7	6.5	6.1	6.8	6.0	6.5	6.5
Color (PCU)	17	7	4	12	4	0	10	2	3	7

TABLE # 8

MINERAL QUALITY OF SURFACE WATER

Oconaluftee River at Birdtown, N.C., Mile 3.1 (Cont)

Chemical Analyses in Milligrams per Liter

Date of Collection	Oct. 19, 1959	Apr. 14, 1960	Oct. 6, 1960	May 10, 1961	Oct. 2, 1961	Apr. 10, 1962	Nov. 29, 1962	Apr. 22, 1963	Dec. 7, 1963	July 2, 1964
Mean Discharge (cfs)	377	669	383	500	142	792	332	330	250	205
Silica (SiO_2)	7.9	7.6	8.5	6.6	8.7	5.9	6.4	6.0	7.2	8.1
Iron (Fe) - Filtered	.03	.00	.01	.01	.00	.00	.02	.00	.00	.02
Ferrous										
Total										
Calcium (Ca)	1.3	1.3	1.2	1.5	1.7	1.2	1.1	1.3	1.8	.8
Magnesium (Mg)	.4	.4	.4	.3	.4	.4	.3	.6	.6	.4
Sodium (Na)	1.2	1.2	1.1	1.0	1.1	1.1	.9	1.1	1.7	1.3
Potassium (k)	.5	.5	.8	.4	.5	.4	.3	.6	.4	.7
Bicarbonate (HCO_3)	8	6	8	8	10	7	10	10	8	10
Sulfate (SO_4)	.4	.4	.6	1.0	.2	1.6	1.2	1.8	2.0	.8
Chloride (Cl)	.2	1.0	.5	1.5	.8	.9	.0	.4	.7	1.2
Fluoride (F)	.0	.0	.1	.1	.0	.0	.0	.0	.1	.1
Nitrate (NO_3)	.2	1.0	.6	.2	.6	.4	.1	.4	.9	.0
Disolved Solids -										
180°C	16	16	18	17	19	15	15	17	19	18
103°C										
Hardness as $CaCO_3$	5	5	4	5	6	4	4	6	7	4
Specific Conductive Micromhos at 25°C	15	13	19	15	17	15	19	17	22	24
PH (SU)	6.9	7.0	6.3	7.0	6.9	7.1	6.9	7.0	6.4	6.6
Color (PCU)	5	5	8	7	8	2	5	3	5	15

TABLE # 9

MINERAL QUALITY OF SURFACE WATER

Oconaluftee River at Birdtown, N.C., Mile 3.1 (Cont)

Chemical Analyses in Milligrams per Liter

Date of Collection	Median	Maximum	Minimum							
Mean Discharge (cfs)										
Silica (SiO_2)	7.2	9.8	5.9							
Iron (Fe) -Filtered	0.02	.07	.00							
Ferrous										
Total										
Calcium (Ca)	1.4	2.0	.8							
Magnesium (Mg)	0.4	.7	.1							
Sodium (Na)	1.1	1.9	.7							
Potassium (k)	0.5	.8	.2							
Bicarbonate (HCO_3)	8	11	5							
Sulfate (SO_4)	1.5	3.9	.1							
Chloride (Cl)	0.7	1.5	.0							
Fluoride (F)	0.0	.2	.0							
Nitrate (NO_3)	0.4	1.5	.0							
Disolved Solids -										
180°C	18	21	14							
103°C										
Hardness as $CaCO_3$	5	7	3							
Specific Conductive Micromhos at 25°C	17	24	13							
PH (SU)	6.5	7.1	6.0							
Color (PCU)	5	17	0							

TABLE #10 MINERAL QUALITY OF SURFACE WATER

Oconaluftee River at Cherokee, N.C., Mile 7.0

Chemical Analyses in Milligrams per Liter

Date of Collection	Oct.1-10, 1945	Oct.11-20,1945	Oct.21-31,1945	Nov.1-10, 1945	Nov.11-20,1945	Nov.21-30,1945	Dec.1-10, 1945	Dec.11-20,1945	Dec.21-31,1945	Jan.1-10, 1946
Mean Discharge (cfs)	250	173	214	174	292	416	407	359	429	1910
Silica (SiO_2)	5.8	7.1	6.7	6.4	6.1	5.7	5.6	5.8	5.1	4.3
Iron (Fe) -Filtered	0.02	.04	.04	.04	.04	.03	.04	.04	.03	.01
Ferrous										
Total										
Calcium (Ca)	1.5	1.5	1.4	1.5	1.5	1.2	1.3	1.2	1.4	1.9
Magnesium (Mg)	0.5	.6	.6	.6	.6	.5	.6	.5	.5	.7
Sodium (Na)	1.1	2.2	2.3	1.4	1.8	1.7	1.4	1.8	1.3	1.3
Potassium (k)	1.0									.8
Bicarbonate (HCO_3)	8	10	10	8	9	7	7	7	7	7
Sulfate (SO_4)	2.3	1.9	1.8	1.8	1.9	1.9	2.0	2.1	1.9	3.4
Chloride (Cl)	0.5	.5	.5	.5	.5	.5	.5	.5	.2	.8
Fluoride (F)	0.0	.0	.0	.0	.0	.0	.0	.0	.0	.1
Nitrate (NO_3)	0.3	.2	.2	.2	.2	.4	.3	.4	.4	.7
Disolved Solids - 180°C	19	20	18	18	18	16	16	17	16	17
103°C										
Hardness as $CaCO_3$	6	6	6	6	6	5	6	5	6	8
Specific Conductive Micromhas at 25°C										
PH (SU)										
Color (PCU)	6	5	8	7	9	9	6	5	6	6

TABLE # 11

MINERAL QUALITY OF SURFACE WATER

Oconaluftee River at Cherokee, N.C., Mile 7.0 (Cont)

Chemical Analyses in Milligrams per Liter

Date of Collection	Jan.11-20,1946	Jan.21-31,1946	Feb.1-10,1946	Feb.11-19,1946	Feb.20-28,1946	Mar.1-10, 1946	Mar.11-20,1946	Mar.21-31,1946	Apr.1-10, 1946	Apr.11-20,1946
Mean Discharge (cfs)	1006	487	999	1072	507	620	663	489	437	566
Silica (SiO_2)	3.0	4.6	3.1	4.8	4.5	5.7	4.9	4.9	4.3	6.0
Iron (Fe) - Filtered	.01	.01	.01	.01	.01	.01	.01	.01	.02	.02
Ferrous										
Total										
Calcium (Ca)	1.2	1.4	1.2	1.3	1.1	1.2	1.2	1.2	1.0	1.5
Magnesium (Mg)	.5	.5	.4	.4	.4	.5	.4	.4	.5	.5
Sodium (Na)	1.8	1.7	1.4	1.5	1.7	1.5	1.7	2.1	2.1	1.3
Potassium (k)									.6	
Bicarbonate (HCO_3)	7	7	6	6	6	7	7	8	8	8
Sulfate (SO_4)	1.5	1.6	1.3	1.9	1.4	1.5	1.5	1.7	1.9	.9
Chloride (Cl)	.6	1.0	.5	.4	.8	.5	.5	.5	.8	.4
Fluoride (F)	.1	.1	.1	.1	.1	.1	.0	.0	.0	.1
Nitrate (NO_3)	.6	.4	.5	.5	.4	.4	.4	.2	.2	.3
Disolved Solids -										
180°C	17	21	12	17	16	16	16	18	18	18
103°C										
Hardness as $CaCO_3$	5	6	5	5	4	5	5	5	5	6
Specific Conductive Micromhos at 25°C										
PH (SU)										
Color (PCU)	4	4	3	4	3	4	5	4	7	6

TABLE # 12 MINERAL QUALITY OF SURFACE WATER

Oconaluftee River at Cherokee,N.C., Mile 7.0 (Cont)

Chemical Analyses in Milligrams per Liter

Date of Collection	Apr.21-30,1946	May 1-10,1946	May11-20,1946	May 21-31,1946	June 1-10,1946	June 11-20,1946	June 21-31,1946	July 1-10,1946	July 11-20,1946	July 21-31,1946
Mean Discharge (cfs)	489	522	753	470	341	265	214	276	356	195
Silica (SiO_2)	7.4	5.6	4.8	5.7	5.8	5.7	5.6	6.6	5.4	8.3
Iron (Fe) - Filtered	.01	.02	.02	.02	.02	.02	.01	.02	.02	.02
Ferrous										
Total										
Calcium (Ca)	1.4	1.4	1.6	1.4	1.5	1.4	1.6	1.6	1.6	1.4
Magnesium (Mg)	.5	.4	.4	.4	.5	.6	.5	.6	.6	.6
Sodium (Na)	1.7	1.4	1.6	1.7	1.9	2.3	2.2	1.8	1.6	1.8
Potassium (k)								.9		
Bicarbonate (HCO_3)	8	7	8	8	8	9	9	9	8	9
Sulfate (SO_4)	1.4	1.6	1.5	1.4	2.1	1.8	1.7	1.8	2.1	1.5
Chloride (Cl)	.5	.2	.4	.2	.5	.8	.9	.8	.5	.8
Fluoride (F)	.1	.1	.1	.1	.1	.1	.1	.2	.1	.1
Nitrate (NO_3)	.3	.3	.4	.4	.3	.4	.4	.4	.3	.3
Disolved Solids -										
180o C	19	16	16	17	21	20	20	20	19	21
103°C										
Hardness as $CaCO_3$	6	5	6	5	6	6	6	6	6	6
Specific Conductive Micromhos at 25°C										
PH (SU)										
Color (PCU)	6	6	6	6	7	5	5	8	8	6

TABLE # 13

MINERAL QUALITY OF SURFACE WATER
Oconaluftee River at Cherokee,N.C., Mile 7.0 (Cont)
Chemical Analyses in Milligrams per Liter

Date of Collection	Aug.1-10, 1946	Aug.11-20,1946	Aug.21-31,1946	Sept.1-10,1946	Sept.11-20,1946	Sept.21-30,1946	May-13, 1948	Median	Maximum	Minimum
Mean Discharge (Cfs)	186	184	144	116	116	163	264			
Silica (SiO_2)	7.2	5.4	7.6	7.9	7.5	7.0	7.2	5.7	8.3	3.0
Iron (Fe) -Filtered	.02	.02	.01	.03	.02	.02	.02	.02	.04	.01
Ferrous										
Total										
Calcium (Ca)	1.5	1.8	1.8	2.0	1.8	1.6	1.0	1.4	2.0	1.0
Magnesium (Mg)	.6	.6	.7	.9	.6	.7	.4	0.5	.9	.4
Sodium (Na)	2.0	1.8	1.9	1.3	3.0	2.5	1.6	1.7	3.0	1.3
Potassium (k)						.8				
Bicarbonate (HCO_3)	9	9	10	10	10	10	7	8	10	6
Sulfate (SO_4)	1.5	2.1	1.8	2.3	3.5	2.5	1.2	1.8	3.5	.9
Chloride (Cl)	.8	.8	.8	.5	1.0	1.0	.2	0.5	1.0	.2
Fluoride (F)	.1	.0	.0	.0	.0	.0	.0	.0	.2	.0
Nitrate (NO_3)	.4	.3	.3	.2	.3	.4	.3	0.3	.7	.2
Disolved Solids - 180°C	21	21	21	20	24	24	16	18	24	12
103°C										
Hardness as $CaCO_3$	6	7	7	9	7	7	4	6	9	4
Specific Conductive										
Micromhos at 25°C					6.8	6.7	7.0			
PH (SU)										
Color (PCU)	6	9	4	7	13	13	2	6	13	2

TABLE # 14

MINERAL QUALITY OF SURFACE WATER
Soco Creek Near Cherokee, N.C., Mile 0.2
Chemical Analyses in Milligrams per Liter

Date of Collection	Apr. 10, 1947	June 18, 1959								
Mean Discharge (cfs)	83	59								
Silica (SiO_2)	7.0	11								
Iron (Fe) - Filtered	0.05	.00								
Ferrous										
Total										
Calcium (Ca)	1.2	2.1								
Magnesium (Mg)	0.5	.8								
Sodium (Na)	2.0	1.3								
Potassium (k)		0.4								
Bicarbonate (HCO_3)	9	10								
Sulfate (SO_4)	1.1	.1								
Chloride (Cl)	0.6	1.0								
Fluoride (F)	0.0	.0								
Nitrate (NO_3)	0.1	.7								
Disolved Solids -	19	22								
180°C										
103°C										
Hardness as $CaCO_3$	5	8								
Specific Conductive Micromhos at 25°C		21								
PH (SU)	7.0	6.2								
Color (PCU)	9									

Ground Water

Ground water is an important source of water for the Eastern Band of Cherokee Indians. The rural population is primarily supplied by private wells and springs.

Hydrologic conditions in the dense metamorphic rocks are usually unfavorable for high volume wells and springs. Low yields are common because the rocks are virtually nonporous. Ground water is restricted to open spaces formed by faults, joints, and cleavage rather than to primary pore space and to the soil cover above the rocks. The openings which are present have not been greatly enlarged by solution except in marble of the Murphy belt.

The relatively impermeable rocks of the area seldom are able to transmit all the water available. Consequently the unconsolidated and weathered material on top of bed rock may be saturated with water which moves along the soil-rock interface. Under suitable topographic and hydrologic conditions, water may emerge at the surface as small springs.

Flood plain deposits consisting of detrital material deposited during flood runoff cover most of the valleys and range from a few feet to several tons of feet in thickness. They are generally so poorly sorted and contain such a high percentage of silt and clay that their permeability is quite low. Adequate amounts of water are usually available for domestic supply, but not in high volume required by industry.

Availability of Water from Wells

The success or failure of wells depends on the type of rock drilled, on the intersection in drilling of subsurface open spaces such as joints, faults, fractures, bedding planes, and planes of schistosity and foliation. The openings must be relatively continuous to an area of recharge. In addition, topographic conditions and soil thickness near the well site play an important role in controlling the availability of water.

In the mountainous area of the Reservation it is often difficult to predict availability of water from a well at a particular location. To facilitate the evaluation of well locations, H. E. LeGrand (Gound Water of the Piedmont and Blue Ridge Provinces in the Southeastern States, U.S. Geological Survey Circular 538, 1967) has developed a numerical rating system based on the promise that: "High-yielding wells are common where thick residual soils and relatively low topographic areas are combined and low-yielding wells are common where thin soils and hilltops are combined." By using tables and charts an observer can reasonably predict the probability of securing adequate amounts of water at particular locations.

Because certain topographic conditions are likely to be more productive than others, LeGrand offers the following examples to show the value of proper well location:

Wells located on concave slopes are commonly more productive than wells on convex slopes or straight slopes. Broad but slight concave slopes near saddles in gently rolling upland areas are especially good sites for potentially high-yielding wells. On the otherhand, steep v-shaped valleys of the gully type may not be especially good sites, and they should be avoided if surface drainage near the well is so poor that contamination is possible.

It is seldom feasible in the mountain areas to continue a well below a depth of 300 feet. Fractures normally become smaller and less numerous with depth. Consequently, the amount of water available is reduced and the water yield per foot of well tends to become less. There are exceptions when large yields have been obtained at depths up to 800 feet.

Availability of Water from Springs

Small springs are abundant in the Reservation area and are commonly used for domestic water supply.

Springs issue from the ground where the surface intersects the water table. They may occur at the bedrock soil interface, where fractures are exposed in the out crops, or along the surface between permeable and impermeable rocks. Flows vary from mere seeps yielding only a few tenths of a gallon per minute to sustained flows of several tens of gallons per minute.

Spring discharge depends on such factors as the amount of the local rainfall, the permeability of the rock, size and extent of the water table, the kind of geologic structure, and on topographi quantities of water for domestic use; however, there are no large springs suitable for industrial water supplies.

Quality of Water

Quality characteristics of ground water from the various rock units are shown on Table No. 15. The chemical quality of water depends primarily on the amount and type of dissolved gasses in rainfall and ground water, the chemical composition of the rock and soil, and the duration of water-rock contact. Chemical composition is variable from one rock unit to another and even within the same unit. Mineralogical variations within the rocks account in part for different analyses from wells within the same rock unit.

Mineralogical variations within the rocks account in part for different analyses from wells within the same rock unit.

TABLE # 15

UPPER LITTLE TENNESSEE RIVER VALLEY
MINERAL QUALITY OF GROUND WATER[a]/

Rock Type	No.		Fe	HCO_3	SO_4	Cl	NO_3	Dis. Solids	Hard. as $CaCO_3$	Spec. Cond.	pH
		Max.	1.1	87	15	9.0	22	122	71	179	7.4
Biotite gneiss	19	Min.	0.0	4	0.2	0.1	0.0	9	4	13	5.2
		Mean	0.16	30	3.8	2.0	1.8	51	24	68	6.4
		Max.	0.87	52	9.0	2.9	5.2	84	38	104	8.4
Granite gneiss	20	Min.	0.0	5	0.2	0.1	0.0	12	2	12	5.4
		Mean	0.08	27	1.1	1.1	0.7	43	16	51	6.5
Quartzite		Max.	1.0	26	20	5.5	7.2	75	40	122	6.9
Metaconglomerate	10	Min.	0.3	5	0.2	0.5	0.0	12	2	10	5.4
Metagraywacke		Mean	0.22	16	3.2	1.9	1.7	34	13	43	6.1
		Max.	1.2	40	0.8	1.6	0.6	61	18	65	6.8
Schist	2	Min.	0.06	9	0.2	0.1	0.0	21	5	23	5.8
		Mean	0.63	24	0.5	0.8	0.3	41	12	44	6.3
Dunite		Max.	0.10	118	20	14.0	33	200	116	327	8.5
Hornblende gneiss	4	Min.	0.01	24	0.0	0.7	0.3	41	14	40	6.1
		Mean	0.05	65	8.2	4.2	8.3	105	58	148	7.2
		Max.	0.03	12	0.2	3.5	1.9	25	10	39	5.6
Alluvium	2	Min.	0.02	4	0.2	3.0	1.7	13	4	21	5.1
		Mean	0.02	8	0.2	3.2	1.8	19	7	30	5.4

a. Swain, Jackson, Graham and Macon Counties, North Carolina. Data not available for Rabun Co., Ga.

SOURCE: Reconnaissance of the Ground Water Resources in the Waynesville Area, North Carolina, Ground Water Bulletin No. 8 and Geology and Ground Water Resources of the Murphy Area, North Carolina

In general water derived from wells and springs in the area is of sufficient quality for domestic and industrial use. Iron in concentrations exceeding the acceptable maximum standard of 0.3 parts per million occurs at scattered localities. The dissolved solid, chloride, and nitrate contents of the ground water differ according to source. As a general rule water derived from drilled wells has a high content of dissolved solids because of longer water-rock contact period. Drilled wells account for about 70 percent of those for which chemical analyses are available. The chloride and nitrate content of water is a good indicator of contamination. According to studies by R. L. Laney, (Geology and Ground Water Resources of the Murphy Area, North Carolina) the chloride and nitrate concentrations are greatest in water from dug wells and least in water from springs. On this basis there is little indication, in the concentration of chloride and nitrate, of polluted ground water supplies in North Carolina portion of the Upper Little Tennessee River watershed.

SOURCE: "Upper Little Tennessee River Region
Tennessee Valley Authority, 1968.

IMPORTANT RESOURCES & AMENITIES WHICH SHOULD BE PRESERVED

Introduction

In December of 1973, an atlas of Environmental Reconnaissance Inventory of the State of North Carolina was completed for the Department of the Army, Office of the Chief of Engineers; by the Engineer Agency for Resources Inventories.

The document is not intended to be a complete and final inventory because of (1) time and budget constraints and (2) environmental information will expand and values will change over time. It does, however, reflect the current state of knowledge and values in areas of environmental concern. The identified resources and amenities relating to lands owned by the Eastern Band of Cherokee Indians have been extracted from this document and are presented for the Tribal government's review. This listing represents, in large part, those aspects of the Cherokee's physical, biological and cultural environment which are especially valued by people and which should, therefore, be approached with careful consideration during the planning, development, and management of water and land related resources.

Information for the Environmental Reconnaissance Inventory of the State of North Carolina was obtained from: atlases, special studies, lists, etc.; Federal, State and selected Local agency personnel, other professional experts (public, quasi-public, private); environmental conservation organizations; and with individuals. Because the Tribal government may wish to review the above described report firsthand, the location coordinates and source reference number are, herein, corresponding. It is not the intent of this planning agency to designate areas, places or things as being of environment concern of the Reservation and, therefore, have not added or deleted from this list. We do, however recommend the list be scrutinized by the Planning Board and the Tribal Council for omissions, deletions and additions.

Environmental Legislative Goals

The goals of the National Environmental Policy Act of 1969 are: Section 1016 (4) which states that Federal agencies should take necessary action "....to the end that the Nation...preserve important historic, cultural and natural aspects of our national heritage and maintain, whenever possible, an environment which supports diversity and variety of individual choice..."

The environmental quality objective of the Water Resources Council's proposed Principles and Standards are: "...to enhance the quality of the environment by the management, conservation, preservation, creation, restoration or improvement of the quality of certain natural and cultural resources and ecological systems" ("Proposed Principles & Standards for Planning & Related Land Resources", Federal Register, Vol. 36, No. 245, 21 December 1971)

Unique & Important Resources & Amenities which Should be Preserved or Approached with Care

I. Physiographic Elements

A. Geologic

Landforms:

1. Gorges, coves, glens

E.B.C.I. - None

2. Distinctive Mountain Features

a. Mt. Noble: northeast of Bryson City; Swain Co.; 4,066 elevation.

Source: 78, 79

Coordinates:

N. Lat.	W. Long.
35°29'	83°20'

b. Soco Gap: 4,345 foot gap west of Waynesville at the junction of U.S. 19 and the Blue Ridge Parkway; Haywood & Jackson Counties.

Source: 84

Coordinates:

N. Lat.	W. Long.
35°30'	83°32'

c. Mt. Heintooga; 13 miles northeast of Bryson City; northeastern Swain County (adjoins Cherokee Reservation)

Source: 89

Coordinates:

N. Lat.	W. Long.
35°34'	83°11'

3. Cliffs, Bluffs

E.B.C.I. - None

4. Rock Formations

E.B.C.I. - None

5. Evidence of Volcanic Activity

E.B.C.I. - None

6. Fossil Evidence, Petrified Wood

E.B.C.I. - None

7. Significant Mineral Sites

E.B.C.I. - None

8. Caverns, Caves

E.B.C.I. - None

B. Hydrologic:

1. Lakes, Ponds

E.B.C.I. - None

2. Major Free-Flowing Rivers, Streams

E.B.C.I. - None

3. Whitewater Stretches

E.B.C.I. - None

4. Inland Marshes, Bogs, Swamps

E.B.C.I. - None

5. Springs

E.B.C.I. - None

6. Waterfalls

a. Soco Falls; Jackson County

Source: 84

Coordinates:	N. Lat.	W. Long.
	35°30'	83°10'

7. Other Rivers, Streams

E.B.C.I. - None

II. Biological Elements

A. Botanical

1. Specimens - Deciduous

E.B.C.I. - None

2. Specimens - Evergreen

E.B.C.I. - None

3. Stands or Communities

E.B.C.I. - None

B. Zoological

1. Terrestrial: (Habitats, breeding or resting grounds of rare, endangered, unique or otherwise significant species or communities.)

E.B.C.I. - None

2. Ornithological: (Habitats, breeding grounds, roosting sites or feeding - nesting areas of rare, endangered, unique or otherwise significant species or communities)
E.B.C.I - None

3. Aquatic Fish: (Fish spawning grounds, anadromous fish routes, marine shellfish, freshwater shellfish terrestrial snails, reptiles.)

a. Mountain Trout: Most waters found at elevations exceeding 1,400 feet elevation which are found only in Western North Carolina. Some 1,300 miles of these streams are Designated Mountain Trout Waters, routinely stocked, and open to public fishing.

4. Aquatic-Fish Spawning Grounds

E.B.C.I. - None

5. Aquatic-Freshwater Shellfish

E.B.C.I. - None

6. Terrestrial Snails

a. Clingman's Dome and Thunderhead Mountain. *Vitrinizonites uvidermis*, rare and endangered land snail, Appalachian Mountains above 5,000 feet. Swain County.

7. Reptiles

E.B.C.I. - None

Preliminary List of Endangered Plant & Animal Species in North Carolina. Compiled by:

Endangered Species Committee of the
Department of Natural & Economic Resources,
State of North Carolina
Issued June 1973

Compiling of this list should serve several purposes. First it will provide us with knowledge of those plant and animal species on the Cherokee Indian Reservation that are threatened with extinction. In some cases the threats to the species are not related to man's activities. In others, however, through his destruction of the species habitat, man is inadvertently dooming the species to extinction. By identifying species so endangered, and by identifying projects and actions that threaten the species'habitat, government agencies should be able to develop action programs to protect the species and insure their perpetuation. In addition many of these species are especially useful as living monitors of environmental quality and it is important that they be protected for that reason.

The status of these species is based on the following federal criteria which have been adapted for state uses:

Endangered: An endangered species or subspecies is one whose prospects for survival are in immediate jeopardy. Its peril may result from one or many causes --loss, change, or destruction of habitat; over exploitation; predation; competition; disease; etc. An endangered species must have help, or extinction and/or extirpation from North Carolina will probably follow.

Rare: A rare species or subspecies is one that, although not presently threatened with extinction, is in such small numbers throughout its range that it may be endangered if its environment worsens. Close watch of its status is necessary.

Undetermined: A species or subspecies of undetermined status is one that has been suggested as possibly endangered, but about which there is not enough information to determine its specific status. More information is needed.

Peripheral: A peripheral species or subspecies is one whose occurrence in North Carolina is at the edge of its natural range and which is rare, endangered, or undetermined within North Carolina although not necessarily in its range as a whole. Special attention is necessary to assure retention in our state's fauna.

This list should be regarded as preliminary at the present time. It has been compiled and edited carefully, but there are undoubtedly omissions and errors that will need to be corrected.

A. Vascular Plants

1. Glyceria nubigena

Range in N. C. - Swain County

Preferred Habitat - Seepage areas.

General comments - Very, very rare

Status - Rare

2. Carex Nisera

Range in N. C. - Ashe, Buncombe, Macon, Mitchell & Swain Counties

Preferred Habitat - Rocky crevices and balds.

General comments - Very, very rare

Status - Rare

3. Cypripedium Reginae

Range in N. C. - Macon & Jackson Counties

Preferred Habitat - Swamps and mossy wooded slopes

General Comments - Very, very rare in N. C.

Status - Rare and Endangered

4. Cladrastis Lutea

Range in N. C. - Haywood, Madison, Cherokee, Graham, Macon and Swain Counties

Preferred Habitat - Rich woods

General Comments - Very rare in N. C.

Status - Rare and Endangered

5. Hypericum Buckleyi (Buckley's hypericum)

Range in N. C. - Southern Appalachians

Preferred Habitat - Balds and rock ledges

General Comments - Mountain endemic

Status - Rare

6. Panax Quinquefolium

Range in N. C. - Mountains and Piedmont

Preferred Habitat - Rich woods

General Comments - Rare

Status - Rare

7. Rhododendron Vaseyi (Pink shell azalea)

Range in N. C. - Mountains of N. C.

Preferred Habitat - Bogs, spruce forest

General Comments - Rare

Status - Rare

8. Shortia Galacifolia (Shortia)

Range in N. C. - Mountains of N. C.

Preferred Habitat - Rich woods

General Comments - Rare

Status - Rare

9. Krigia Montana

Range in N. C. - Mountains

Preferred Habitat - Rocky peaks and ledges

General Comments - Southern Appalachian endemic
Status - Rare

B. Invertebrates

1. Annelid Worms

E.B.C.I. - None

2. Amphipod

E.B.C.I. - None

3. Isopod

E.B.C.I. - None

4. Crayfish

E.B.C.I. - None

5. Insects

E.B.C.I. - None

6. Millipeds

E.B.C.I. - None

7. Spider

E.B.C.I. - None

8. Scorpion

a. *Vejovis carolinianus* - (Scorpion)

Range in N. C. - Cherokee, Clay, Macon Counties

Preferred Habitat - (not established)

General Comments - Also found in Georgia, Alabama & Tennessee

Status - Peripheral - Undetermined in N. C.

9. Mollusks

Land Snails:

a. Mesodan Clarki Nantahala (Land Snail)

Range in N. C. - Swain County

Preferred Habitat - (not established)

General Comments - Endemic

Status - Endangered

b. Mesodon Jonesianus

Range in In. C. - Haywood & Swain Counties

Preferred Habitat - (not established)

General Comments - Endemic to Smoky Mountains

Status - Rare

c. Paravitrea Clappi

Range in N. C. - Swain County

Preferred Habitat - Altitudes above 5,000'

General Comments - Endemic to Smoky Mountains

Status - Endangered

d. Stenotrema Voluminosum

Range in N. C. - Swain County

Preferred Habitat - (not established)

General Comments - (None)

Status - Undetermined

e. Stenotrema Fraternum Montanum

Range in N. C. - Swain County

Preferred Habitat - (not established)

General Comments - (none)
Status - Undetermined

f. Stenotrema Fasciatum

Range in N. C. - Jackson County

Preferred Habitat - (not established)

General Comments - (none)

Status - Undetermined

g. Haplotrema Kendeighi

Range in N. C. - Swain County

Preferred Habitat - (not established)

General Comments - (none)

Status - Undetermined

h. Paravitrea Placentula

Range in N. C. - Swain County

Preferred Habitat - (not established)

General Comments - (none)

Status - Undetermined

i. Paravitrea Capsella

Range in N. C. - Graham County

Preferred Habitat - (not established)

General Comments - Occurs in Virginia

Status - Undetermined

j. Helicodiscus Fimbriatus

Range in N. C. - Graham County

Preferred Habitat - (not established)

General Comments - Occurs in South Carolina
Status - Undetermined

C. Vertebrates

1. Fish

E.B.C.I. - None

2. Amphibians

a. Hemidaetylium Scutatum (Four-toed Salamander)

Range in N. C. - Cherokee, Polk & Orange Counties

Preferred Habitat - (not established)

General Comments - (none)

Status - Rare

b. Pseudacris Brachyphona (Mountain Chorus Frog)

Range in N. C. - Known in N.C. only, Cherokee County

Preferred Habitat - (not established)

General Comments - Common, breed-season, late winter early spring.

Status - Peripheral - Rare in N. C.

c. Ambystoma Talpoideum (Mole Salamander)

Range in N. C. - Buncombe & Cherokee County

Preferred Habitat - (not established)

General Comments - (none)

Status - Peripheral - Undetermined in N. C.

3. Reptiles

E.B.C.I. - None

4. Birds

a. Aquila Chrysaetos (Golden Eagle)

Range in N. C. - Occasional visitor in Mountains

Preferred Habitat - Open country, mountains

General Comments - Small N. E. Appalachian population declined greatly

Status - Rare

b. Carthartes Aura (Turkey Vulture)

Range in N. C. - Common - uncommon resident statewide

Preferred Habitat - Fields & Woodlands

General Comments - May be declining due to changes in land use & agricultural practices

Status - Undetermined

c. Accipiter Striatus (Sharp-shinned Hawk)

Range in N. C. - Uncommon summer resident, Piedmont & mountains. Winter resident statewide.

Preferred Habitat - Open woodlands & wood margins

General Comments - General decline in N.C.; drastic decline recently in N.E. states

d. Accipiter Cooperii (Coopers Hawk)

Range in N. C. - Uncommon resident statewide

Preferred Habitat - (As above)

General Comments - (As above)

Status - Undetermined

e. Melanerpes Erythrocephalus - (Red-headed Woodpecker)

Range in N. C. - Uncommon resident statewide

Preferred Habitat - Open deciduous woods, open wooded areas on farms & in towns.

General Comments - Competition with Starlings & loss habitat causing species to decline

Status - Undetermined

f. Sialia Sialis - (Eastern Bluebird)

Range in N. C. - Common- uncommon resident statewide

Preferred Habitat - Orchards, farms & field edges

General Comments - Lack nesting sites & competition with House Sparrow & Starlings threaten species.

Status - Undetermined

g. Limnothlypis Swainsonii - (Swainson's Warbler)

Range in N. C. - Locally uncommon - rare summer resident coastal plain & mountains

Preferred Habitat - Swamps & river floodplains in coastal plain & Rhododendron thickets in mountains.

General Comments - High nest mortality from natural causes on coastal plain; distribution in mountains poorly know.

Status - Undetermined

h. Nuttallornis Borealis - (Olive-sided Flycatcher)

Range in N. C. - Uncommon rare local summer resident in high mountains

Preferred Habitat - Open situations in spruce-fir forests

General Comments - N. C. southern limit range

Status - Peripheral - Rare in N. C.

i. Aegolius Acadicus - (Saw-Whet Owl)

Range in N. C. - Uncommon local summer resident of higher mountains

Preferred Habitat - At spruce-fir/northern hardwood transition zone.

General Comments - N.C. southern limit range

Status - Peripheral - Rare in N. C.

j. Corvus Corvax - (Common Raven)

Range in N. C. - Uncommon-rare resident higher mtns.

Preferred Habitat - Forests & balds of high mtns.

General Comments - Mountains of N.C. near southern limit range.

Status - Peripheral - Rare in N.C.

k. Parus Atricapillus - (Black-capped Chickadee)

Range in N.C. - Uncommon resident, higher mtns.

Preferred Habitat - Breeds in spruce-fir forests

General Comments - N. C. southern limit range

Status - Peripheral - Undetermined in N. C.

l. Loxia Curvirostra - (Red Crossbill)

Range in N.C. - Rare summer resident & fairly common winter resident, high mtns.

Preferred Habitat - Spruce-fir forest of high mtns.

General Comments - N.C. southern limit range

Status - Peripheral - Rare in N.C.

5. Mammals

a. Sciurus Niger Bachmani - (Lowry & Davis)-Fox Squirrel

Range in N.C. - Cherokee & Graham Counties

Preferred Habitat - (not established)

General Comments - N.C., range periphery

Status - Endangered

b. Felis Concolor Cougar - (Kerr) Cougar

Range in N. C. - Eastern Swamps, Western mtns.

Preferred Habitat - (not established)

General Comments - Probably extirpated N.C. northern end range

Status - Endangered

c. Myotis Austroriparus Mumfordi-(Rice) Southeastern Myotis

Range in N. C. - Western N. C.

Preferred Habitat - (not established)

General Comments - N. C. range periphery

Status - Rare

d. Myotis Sodalis-(Miller & Allen) Indiana Bat

Range in N. C. - Western N. C.

Preferred Habitat - (not established)

General Comments - N. C. range periphery

Status - Rare

e. Mustela Nivalis Allegheniensis-(Rhodes) Least Weasel

Range in N. C. - Western N. C.

Preferred Habitat - (not established)

General Comments - N. C. southeastern end range

Status - Rare

f. Microtus Chrotorrhinus Carolinensis-(Komarek) Rock Vole

Range in N. C. - Mountain balds, meadows

Preferred Habitat - (not established)

General Comments - (none)

Status - Undetermined

g. Sorex Cinereus Cinereus-(Kerr) Masked Shrew

Range in N. C. - Western N. C.

Preferred Habitat - Highlands plateau

General Comments - (none)

Status - Peripheral - Undetermined in N. C.

h. Sorex Palustris Punctulatus-(Hooper) Water Shrew

Range in N. C. - Western N. C.

Preferred Habitat - Wet bogs

General Comments - (none)

Status - Peripheral - Rare in N. C.

i.. Sorex Fumeus-(Miller) Smokey Shrew

Range in N. C. - Western N. C.

Preferred Habitat - Moist deciduous forests

General Comments - (none)

Status - Peripheral - undetermined in N. C.

j. Sorex Dispar Blitchi-(Schwartz) Long-tailed Shrew

Range in N. C. - Western N. C.

Preferred Habitat - Rocky substrate

General Comment - (none)

Status - Peripheral - undetermined in N. C.

k. Microsorex Winnemana-(Preble) Pigmy Shrew

Range in N. C. - Western N. C.

Preferred Habitat - Deciduous forests

General Comment - (none)

Status - Peripheral - undetermined in N. C.

l. Myotis Subulatus-(Say) Small foot Myotis

Range in N. C. - Western N. C.

Preferred Habitat - (not established)

General Comments - (none)

Status - Peripheral - undetermined in N. C.

m. Neotoma Floridana Haematoreia-(A.H.Howell) Wood Rat

Range in N. C. - Southwest corner N. C.

Preferred Habitat - (not established)

General Comments - (none)

Status - Peripheral - undetermined in N. C.

III. Cultural Elements

A. Archaeological (Pictographs, petroglyphs, burial grounds, mounds, Village sites, ruins, artifact sites, other.

1. Cherokee County - 69 sites
2. Graham County - 41 sites
3. Jackson County - 142 sites
4. Swain County - 45 sites

B. Historical (Historical sites, monuments, structures and buildings.

1. Cherokee County
    a. Andrews Mound
2. Graham County
    a. Chief Junaluska's Grave

3. Jackson County
    a. Judaculla Rock
    b. Echota Mission
4. Swain County
    a. Boundary Tree Marker
    b. Echota Mission & Missionary House
    c. Mingus Mill (near Cherokee)
    d. Nununyi Indian Mound
    e. Governor's Island (Kituhwa)
5. Transportation Routes (Canals, ferries & roads)
    a. Canals

       E.B.C.I. - None

    b. Ferries

       E.B.C.I. - None

    c. Roads

       (1) Ocaneechi Trading Path. An early colonial road followed this Indian Trail and presently routes #29 & #70 are remarkably close to this alignment.

Coordinates:	N. Lat.	W. Long.
	36°10'	78°42'

Source: 7, 19

C. Contemporary (Those features which reflect man's current values, activities, styles of life, social events)

1. Educational Centers
    a. Western Carolina University - Cullowhee Jackson County
    b. Southwestern Technical Institute, Sylva Jackson County
2. Ethnic Colonies: Indian Settlements
    a. Cherokee Indian Lands - Cherokee County
    b. Cherokee Indian Lands - Graham County
    c. Cherokee Indian Lands - Jackson County
    d. Cherokee Indian Lands - Swain County
    e. Oconaluftee Indian Village - N. W. of Cherokee, Swain County. On Route #441, Cherokee Community
3. Sites of Fairs, Festivals, Art & Musical Events & other Cultural Activities
    a. "Unto These Hills", Cherokee, Swain County. Outdoor drama retelling the story of the removal of the Cherokee tribe from their native land to Oklahoma is performed nightly except Sunday each summer.
    b. Cherokee Indian Fair
4. Gardens

    E.B.C.I. - None
5. Museums
    a. Museum of the Cherokee Indians. Cherokee, Swain

County. Museum is within the Qualla Reservation along U.S. Rt. #441. Closed December & January.

6. Trails

   a. Mt. Nobel Trail - Swain County

SOURCES: Physiographic Elements

78. Blake, Martha, Letter dated 10 October 1972 from the Joseph LeConte Chapter of the Sierra Club, Chapel Hill, N.C., Inclosures to letter include: 27 pages of resources listed by County; 1 annotated map entitled 100 Favorite Trails; and 26 annotated county highway maps.

79. Carolina Mountain Club of Asheville & Smoky Mtns. Hiking Club of Knoxville, 100 Favorite Trails of the Great Smokies & Carolina Blue Ridge, Stephens Press, Inc., Asheville, N.C. 1971, map scale: 1: 250,000

84. Wiser, Edward H., Letter, North Carolina State Univ., School of Agriculture and Life Sciences, Raleigh, N.C. 26 January 1973, 5 p.

89. Flournay, William L., Jr., Letter received 19 March 1973

SOURCES: Environmental Use or Management Areas

17. The Joseph LeConte Chapter of the Sierra Club, letter to the Forest Supervisor of the National Forests in

North Carolina in Asheville re: Inventory of 'de facto' Wilderness Areas, 13 October 1971.

19. U. S. Department of the Interior, National Park Service, Blue Ridge Parkway, the Department, Washington, D. C., 1971.

EROSION AND SEDIMENTATION

One of the characteristics of the Cherokee Reservation is the very high erodibility of many upland soils when their plant cover is disturbed or removed. Grading operations and preparation for construction of essential improvements, such as housing roads, commercial-industrial facilities, schools, etc., frequently create critically eroding areas. These areas require expensive stabilization efforts to re-establish protective cover. Water control structures are frequently essential to the establishment and maintenance of this cover. Failure to properly treat many such areas has produced almost 82 acres of very severly eroding land in addition to many acres of eroded roadside on the Eastern Band of Cherokee lands. These conditions have resulted in sediment pollution of streams, high maintenance costs, and ugly scars on otherwise beautiful landscapes. In 1972, an inventory of critically eroded areas was conducted in the Western Six Rural Conservation and Development areas by the U. S. Department of Agriculture, Soil Conservation Service, in which Cherokee Indian lands were included. The results of this inventory for the Reservation are summarized below:

COUNTY	AREA IN ACRES
Cherokee Indian Reservation Cherokee County	3
Cherokee Indian Reservation Graham County	17
Cherokee Indian Reservation Jackson County	13
Cherokee Indian Reservation Swain County	49
Total	82

(Public and private roads are not included)

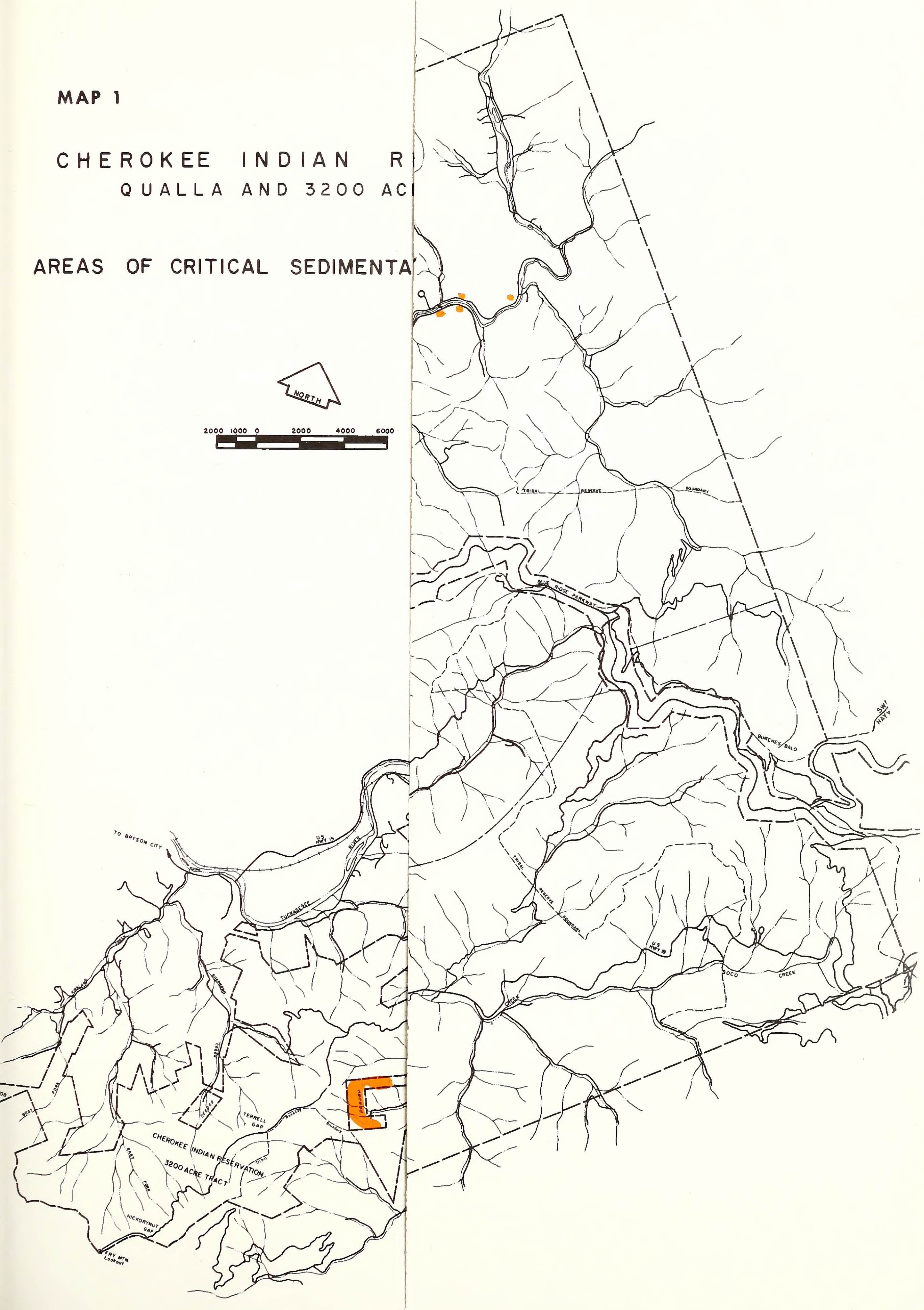
SOURCE: Design For Better Living, Western Six R.C. & D. Program of North Carolina, 1974.

The areas of critical erosion or sedimentation for the Qualla Boundary and 3200 Acre Tract are shown on Map #1. All of the areas of erosion or sedimentation on the Cherokee County tracts and Graham County tracts relate to new housing, or housing sites and are not shown in map form due to their low numbers.

MAP 1

CHEROKEE INDIAN R
QUALLA AND 3200 AC

AREAS OF CRITICAL SEDIMENTA



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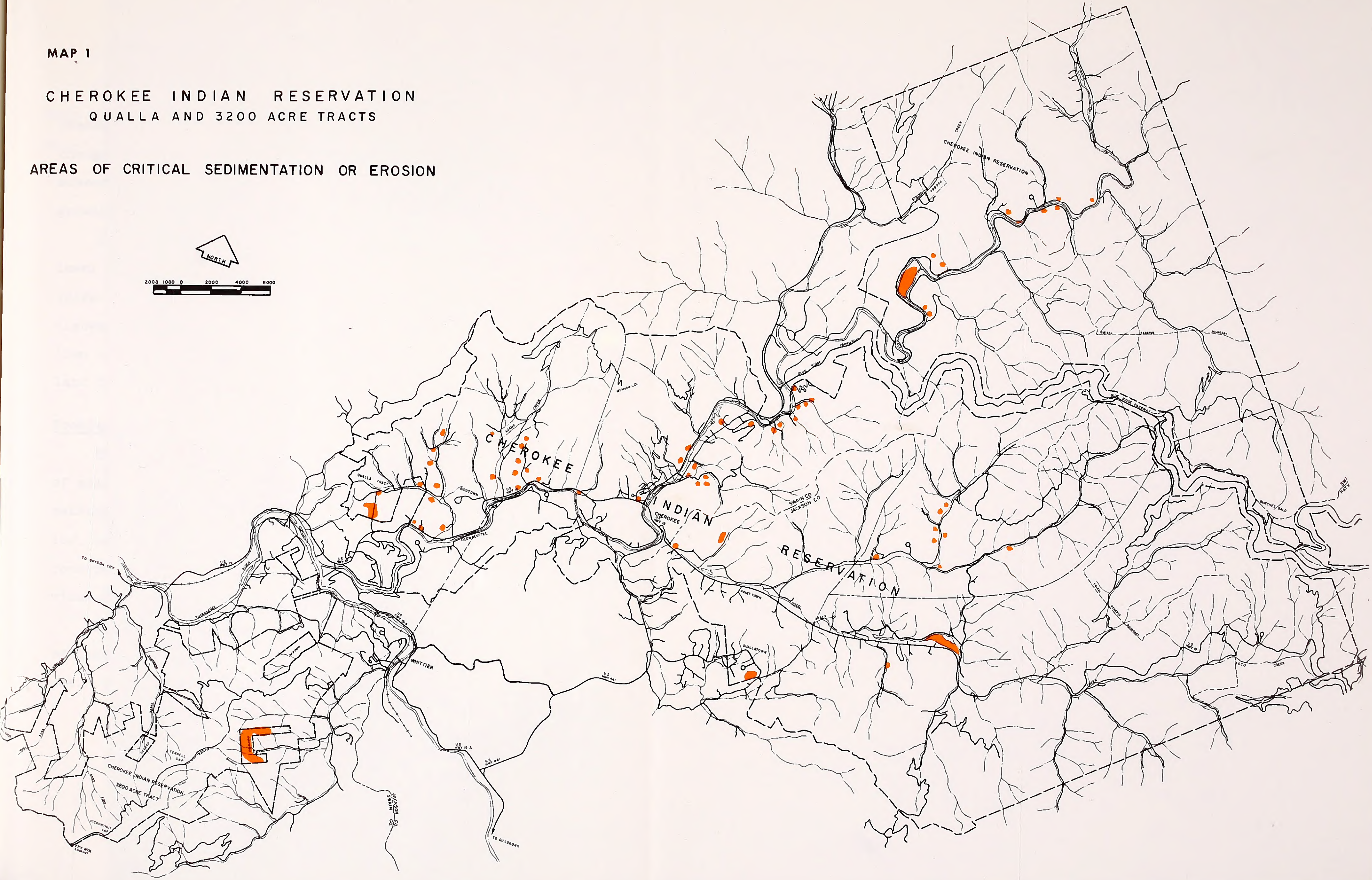
MAP 1

CHEROKEE INDIAN RESERVATION

QUALLA AND 3200 ACRE TRACTS

AREAS OF CRITICAL SEDIMENTATION OR EROSION



THE NEED FOR EROSION AND SEDIMENT CONTROL

Each year more than a million acres of land in the United States are converted from agricultural use to urban use. These changing acres are the sites for the new houses, shopping centers, schools, industrial parks, highways and airports needed by our growing population.

These changing acres also are the source of much of the sediment that pollutes streams and rivers and fills lakes and reservoirs. Studies show that erosion on land going into use for highways, houses, or shopping centers is about 10 times greater than on land in cultivated row crops, 200 times greater than on land in pasture, and 2,000 times greater than on land in timber.

Problems Vary

The amount of erosion that occurs is determined by the kind of soil, the slope, the intensity of rainfall and the construction methods. Much of the erosion occurs during the construction period, but areas below a construction site may erode more after construction is completed because of the rapid runoff from impervious pavement, parking lots, or compacted soil.

Improvements in earth-moving equipment have made reshaping of land easier and have brought steeper and rougher land into use. Also, the trend toward large subdivisions and developments to meet housing needs has left large cleared and graded areas exposed to erosion for long periods. Because of these factors, an ever-increasing amount of land is undergoing development each year and erosion is becoming a more serious problem in urban areas than ever before.

Damage to the land does not come from erosion alone. The increased runoff erodes stream banks and channels and causes flooding below the construction site. And the sediment pollutes streams, lakes, and reservoirs and damages the area where it comes to rest.

DAMAGES CAUSED BY SEDIMENT

Construction Site

Erosion damage to the construction site includes rilled and gullied slopes, gullied waterways and channels, washed-out roads and streets, undercut pavements and pipelines, clogged storm sewers, flooded basements, and debris-laden work areas. Damage of this kind must be repaired. It increases the cost of construction and causes delays in work schedules.

A construction site also can lose fertile topsoil through erosion. This loss could mean that lawns and gardens will be difficult to establish.

Damage to Stream Channels

Stream channels below a construction site can become filled with sediment and then flood when the volume of runoff increases during heavy rains. A sediment-filled stream channel can cause stream-bank erosion and can force the stream to meander. Land along the stream may be damaged by sediment, flooding, and erosion and the esthetic value of the stream may be seriously impaired.

Damage to Water

Sediment is the greatest single pollutant of streams, lakes, ponds, and reservoirs. Sediment lowers the quality of water for municipal and industrial uses and for boating, fishing, swimming, and other water-based recreation; it increases the wear on equipment, such as turbines, pumps, and sprinkler irrigation systems. The large annual loss of reservoir storage space is one of the most serious consequences of sediment in water supplies. This is occurring at a time when the need for potable water supplies is expected to double within 30 years.

Damage to Property, Public and Private

Sediment almost always damages the areas where it is deposited. It buries lawns, fills ditches, and clogs storm sewers, culverts, and drains. It can make an area unsuitable for use as a park or playground. Sediment reduces the storage capacity of reservoirs and may fill small ponds and lakes. It is injurious to both game fish and shell fish. The sediment that reaches major waterways blocks navigation channels, fills harbors and silts estuaries.

The nationwide damage caused annually by sediment has been estimated at more than $500 million. Much sediment comes from agricultural land, but the amount contributed by land undergoing urban development is high in proportion to the acreage. Some areas may be getting sediment from construction sites only, and the damage may be catastrophic.

Public Concern

People today want better houses, better shopping centers, and better roads. But they also want pure water, clean air, more open spaces, and other improvements in the environment that make for pleasant living. People are demanding that natural resources be developed, protected, and improved for use now and in the future.

As our population increases, the acreage of land needed for urban use will increase. And the hazards of erosion and sedimentation will be greater unless effective and practical measures for controlling erosion are adopted and used widely.

The SOLUTION

Many organizations and federal, state and local agencies can provide leadership and assistance in a program for erosion control.

The Soil Conservation Service of the Department of Agriculture gives technical help through soil and water conservation districts and in cooperation with other agencies. Programs for erosion control need to be initiated by developers, builders, engineers, planners, architects, public officials--the people responsible for controlling erosion in their community.

Today's conservation problem on land undergoing development for urban use follow by nearly three decades the initiation of soil and water conservation work on farmland. Much of what we know about erosion and sediment control has been learned from research demonstration, and actual experience.

This wealth of information and experience can serve urban areas equally well if properly interpreted. The basic principles of soil and water conservation and resource development can be applied anywhere.

Select the Right Land

Builders and developers can minimize erosion, sedimentation, and other conservation problems by selecting the best site for an intended use. Tracts of land vary in suitability for different uses, so knowing the kind of soil, the topography, and the drainage pattern of the area will help in identifying and evaluating potential problems.

Regional and community planning is guiding land development in much of the rapidly urbanizing areas. Community planners, using information about the soils and about the geology, hydrology, and topography of the area, determine how the different kinds of land in a community can best be used. They make studies to determine future land needs for urban, agricultural, recreational, and other purposes. Other studies project population growth and trends and determine the land needs for schools, transportation, utilities and other public services. The studies are based on community objectives to meet all necessary needs for land in ways that can protect natural resources, enhance the environment, and provide for both efficient and pleasant communities.

Soil Surveys Can Help

Soil surveys can be used in planning to determine land use suitably. Soil surveys include soil maps, soil descriptions, and soil interpretations. The interpretations serve to point out the hazards and limitations in using the soils for different purposes. With this kind of information developers and builders can select sites that have the fewest limitations for a certain use and know that their selection will be compatible with the community's plans and interests.

More and more developers and builders are making use of soil and other resource data in selecting land for development and in preparing site development plans.

Used for Years

Soil surveys were first used by farmers and agricultural scientists. They have guided the use and treatment of farmland and rangeland for years. Highway engineers have found soil surveys useful as an aid in designing highways as well as in determining the best routes. Sometimes adjustments in locating the right-of-way to avoid highly erodible soils or steep topography can reduce erosion problems greatly. Bankers are using soil surveys in land appraisal for making loans. Land assessors are using them as one criterion in determining a fair tax base. And land-planning agencies in increasing numbers are using them. The same soil survey can serve many different uses. To date soil surveys have been completed for 17 counties in North Carolina and additional surveys are being made in all counties in North Carolina.

In making a soil map, the boundaries of the different kinds of soil occurring on a tract of land are delineated on an aerial photograph. The delineations show the location and extend of the different kinds of soil in relation to streams, roads, buildings, and other features of the landscape.

Soil Described

Soil surveys describe the characteristics and properties of each kind of soil--its texture, slope, depth, erodibility, permeability, degree of wetness, presence of impervious or porous layers, and other information useful in construction. The soil descriptions are the basis for interpreting soil suitability for different uses. Many soils are well suited to many uses; others, because of limitations, are suited to only a few uses.

Soil limitations are expressed as slight, moderate, and severe. A severe limitation does not mean that the soil cannot be used for a specific purpose, but rather that the cost of overcoming the limitation for that purpose may be prohibitive.

Include Erosion Control in the Development Plan

If a program for erosion control is worked out during the planning and design stages, before ideas become fixed and construction begins, the problems brought on by soil erosion, runoff, and sedimentation can usually be avoided or lessened.

Detailed information on the soils, topography, and geologic and hydrologic conditions should be obtained during field examination of the site. Particular attention should be given to identifying and evaluating problems that may cause serious erosion during construction. For example, will disposing of runoff be a problem? Runoff originating on the site and runoff from the watershed above must be controlled and disposed of safely. Consideration should also be given to offsite measures that may be needed to prevent damage to downstream land and property by either erosion or sediment.

Specific consideration should be given to fitting developments to the site and the landscape. Street, lot, and building layout can minimize or encourage erosion during construction and complement or detract from the natural environment. Steep slopes and areas of highly erodible soils can be protected or left exposed; clearing and grading can save or destroy trees and can result in limited or excessive soil distrubance; cut-and-fill slopes can be stable or unstable, protected by cover or left bare for long periods. These are the kinds of considerations that need to be weighed and resolved during planning and design to get erosion control into the site development plant.

On sites where the cost of controlling erosion may be high because of the measures needed to overcome the site limitations, alternative uses or a layout that is more compatible with the land should be considered. The cluster method of developing residential areas, for example fits the building and streets to the natural characteristics of the land. In using the cluster method on sloping land, houses are built only on the more level areas and the steep, more erodible land is left undisturbed. Erosion hazards have been minimized and costs have not been increased.

The problems presented by small areas where erodible soils or steep slopes impose severe limitations may be solved best by using these areas as open spaces. Perhaps they can be added to public parks or to areas managed by community associations. In some places, schools make good use of them as nature areas or outdoor laboratories for class study.

There are always alternative ways of effectively controlling erosion and sediment production on most sites. The final plan generally is based on such factors as the time of year that construction will take place, the extent of grading, the amount of cover on the land, and the builder's preferences. On most sites a combination of fitting the development to the land, limiting grading, limiting the exposure of bare soil, and applying the appropriate erosion control practices will prove the most practical.

CONTROLLING EROSION and SEDIMENT

Erosion is a process of detachment and transportation of soil particles. Rain falling on bare soil or on soil with sparse cover detaches soil particles, and the runoff carries the detached particles down the slope. Rills and gullies are cut by the force of the moving water. The soil particles are deposited as the water slows down and spreads out. Water moving over the land and in downstream channels carries soil material in proportion to the volume and velocity of the water.

Erosion and sedimentation can be controlled effectively, and at reasonable cost, if certain principles are followed in the use and treatment of land. These principles are: (1) using soils that are suited for development, (2) leaving the soil bare for the shortest time possible, (3) reducing the velocity and controlling the flow of runoff, (4) detaining runoff on the site to trap sediment, and (5) releasing runoff safely to downstream areas.

In applying these principles various combinations of the following practices have proved effective:

1. Selecting land where drainage patterns, topography, and soils are favorable for the intended use.
2. Fitting the development to the site and providing for erosion control in the site development plan.
3. Using for open space and recreation those areas not well suited for urban development.
4. Developing large tracts in small workable units on which construction can be completed rapidly so that large areas are not left bare and exposed for long periods.
5. Grading at a minimum and removing only undesirable trees where ever possible.
6. Controlling runoff and conveying it to storm sewers or other outlets so it will not erode the land or cause offsite damage.
7. Protecting critical areas during construction with mulch or temporary cover crops and with mechanical measures

such as diversions and prepared outlets.

8. Constructing sediment basins to detain runoff and trap sediment during construction.
9. Providing for safe offsite disposal of runoff, including the increased runoff resulting from construction.
10. Establishing permanent vegetation and installing erosion control structures as soon as possible.

ASSISTANCE AVAILABLE

Soil and water conservation districts in North Carolina have broadened their programs to provide needed assistance to urban resource problems concerning soil and water conservation and proper land use. The Soil Conservation Service, working through soil and water conservation districts, gives technical help to city and county officials and their planning commissions in making plans for the wise use and development of the land and water resources.

The soil and water conservation districts have also made provisions to provide assistance to individual developers and builders in making plans for their developments. This assistance would provide for the Soil Conservation Service to help the developer in making a plan which would include soils information, the use of needed erosion control measures during construction, and a plan for maintenance of erosion control measures after construction is completed.

Assistance on interpretation of soil surveys is also available through the Agricultural Extension Service and the Soils Department of North Carolina State University.

APPLYING NEEDED CONSERVATION MEASURES DURING CONSTRUCTION

Installation of erosion and sediment control measures should be planned and scheduled as a part of construction operations. Construction contracts should clearly outline the location, scope, and manner of performing or installing the measures.

If possible, construction should be scheduled for that time of year when erosion is less of a hazard. This is particularly advisable for those sites where limitations for construction are severe because of steep slopes and erodible soils. Avoiding erosion hazards is an inexpensive way of controlling erosion and sedimentation.

Structures for controlling erosion on newly graded areas should be written into the grading contract. All permanent structures should be installed as early in the construction schedule as possible. Sediment basins also, if they are needed, should be installed early. Newly constructed slopes and other areas susceptible to erosion should be mulched or seeded to a temporary cover crop as soon as possible after grading. Finished grading leaves the soil extremely vulnerable to erosion. For this reason, it is advisable to schedule finished grading for the time of year that is favorable to establishing vegetation; the site can be seeded and mulched or sodded immediately following grading.

During the construction, equipment should be used in a manner that does not leave the site more susceptible to erosion. Leaving deep wheel tracks up and down the slope, for example, should be avoided. Cultivation and seeding should be across the slope where possible. Access and work roads should be located and built so as not to encourage erosion.

If the construction site borders streams, lakes, or reservoirs, special measures may be necessary to prevent damage to fish and wildlife, water supplies, and irrigation systems. Construction should conform to regulations of water resource and fish and wildlife agencies.

Restoring borrow pits and spoil areas should help control runoff and sedimentation. Such areas should be drained, graded, and revegetated so as to blend into the surrounding landscape. Diversions, dikes, and sediment basins should be used where needed to keep sediment from entering streams or damaging land and structures.

Responsibility for maintenance of the permanent structures and plantings should be clearly understood when ownership or management of property transfers from the developer or builder to a private owner, a public land administering agency, or a community management association.

Permanent structures should be inspected soon after installation to locate and correct any deficiencies. They then should be inspected annually and after major storms.

EROSION and SEDIMENT CONTROL MEASURES

There are two basic kinds of erosion and sediment control measures--vegetative and structural. These measures can be effectively applied to control erosion either individually or in proper combinations depending on specific site needs.

Vegetative Measures

Vegetative measures provide temporary cover to help control erosion during construction and permanent cover to stabilize the site after construction is completed. The measures include the use of mulches and temporary and permanent cover crops.

Erosion can be controlled with less difficulty on some sites than on others during construction, and permanent cover is easy to establish on some sites and difficult on others. Establishing and maintaining good plant cover is easy in areas of fertile soil and moderate slopes. Usually such areas can be stabilized by using the plants and cultural methods that are common in the community.

Sites that are difficult to stabilize, because of exposed subsoil, steep slopes, a droughty exposure, and other conditions, require special treatment. Such sites are called critical areas because they erode severely and are the source of much sediment if they are not well stabilized.

Mulch

Straw mulch can be used to protect constructed slopes and other areas brought to final grade at an unfavorable time for seeding. The areas can be seeded when the time is favorable without removing the mulch.

Mulch is essentail in establishing good stands of grasses and legumes on steep cut-and-fill slopes and other areas where it is difficult to establish plants. By reducing runoff, mulch allows more water to infiltrate the soil. It also reduces the loss of soil moisture by evaporation; holds seed, lime, and fertilizer in place; and reduces seedling damage from heaving of the soil caused by freezing and thawing.

The materials most widely used in mulching are small-grain straw, hay, and certain processed materials. Grain straw is easily applied and generally is more readily available than hay, and it costs less. In some places, certain hays are preferred because they are a source of seed of plants that can be used for stabilization. Straw and hay mulches are usually applied at the rate of 1½ tons per acre.

A number of processed mulches are available, and some show promise of greater use under specific conditions. Hydromulching, in which seed, fertilizer, and mulch are applied as a slurry, is a fast, all-in-one operation that requires little labor. Hydromulching may not be successful if done during a period of high-intensity storms.

Straw and hay mulches must be anchored to keep them from blowing or washing away. Anchoring methods include spraying the mulch with asphalt, tucking the mulch into the soil with a straight-blade disk, stapling netting over the mulch, and driving pegs into the mulched area at intervals of about 4 feet and interlacing them with twine.

Temporary Cover

Temporary cover crops can be used where cover is needed for a few months or a year or two. If construction is delayed on a site that has been cleared and graded, temporary cover crops can be used to protect the site against erosion. And they can be planted at a time of year that is unfavorable for seeding and establishing permanent cover.

Rapidly growing plants, such as annual rye grass, small grain, sudangrass, and millet, are most often used for temporary cover. Plants that are adapted to the locality and the season of the year during which protection is needed should always be used.

Permanent Cover

Special care should be taken in selecting plants for permanent cover. There are many grasses and legumes, trees, shrubs, vines, and ground covers from which to choose in most humid areas of the country but only a few in most dry regions. Final choice should be based on adaption of the plants to the soils and climate, ease of establishment, suitability for a specific use, longevity or ability to self-reseed, maintenance requirements, esthetic values, and other special qualities.

The best plants are those that are well adapted to the site and to the purpose for which they are to be used. For example, grasses used for waterway stabilization must be able to withstand submergence and provide a dense cover to prevent scouring of the channel. In playgrounds, grasses must be able to withstand trampling. In some places, such as south-facing cut-and-fill slopes, the plants needed are those that are adapted to droughty areas. In other places, plants must be able to tolerate shade. Some plants can beautify as well as stabilize an area.

Maintenance

Maintenance may be the most important factor in selecting plants for permanent stabilization. Most tame grasses and legumes require much maintenance, and they gradually give way to native grasses, shrubs, and weedy plants if they are not mowed and fertilized regularly. In some areas native plants are preferred. On steep slopes and other inaccessible areas, it is preferable to select plants that require little or no maintenance. Sericea lespedeza, crownvetch, and honeysuckle, for example, are long lived and provide good erosion control with a minimum of maintenance. Most native grasses, trees, and shrubs grow well with little or no maintenance.

Fibrous Materials

A number of fibrous materials have special uses in erosion control.

Jute netting, a coarse, open-mesh, web-like material, can be applied directly on the soil to protect newly seeded channels until vegetation becomes established. It can also be used in repairing outlets and diversions where gullies have cut the channel. In some places it can be used to hold down straw mulch.

Cotton netting and paper netting are both lightweight; they can hold straw mulch in place and prevent it from blowing or washing away.

Solid heavy-duty fiber-glass matting can be used as a temporary channel liner where water velocity is too high for the use of vegetation or where vegetation is not wanted. Impregnating the mat with asphalt prolongs its life. Perforated fiber-glass matting can be used in the same way as jute netting to protect newly seeded channels. It can be used as a transition apron, lining the head of a channel to protect it from runoff, especially that from road culverts, which tends to cut a gully down the channel. And used as erosion stops, perforated matting can check rilling.

Fiber-glass erosion stops have certain advantages over rigid stops of masonry or wood. Soil often settles around rigid structures causing a turbulent and erosive flow. The fiber-glass stops are flexible and conform to the channel. Also, they are porous--water can seep through them--so subsurfaces drainage is improved.

Methods Vary

Methods of establishing vegetation vary for different parts of the country, depending on the plants used and on soil and climate. In selecting plants and in getting them established, it is best to be guided by the methods commonly used and recommended in the area.

As a general rule, when seeding grasses and legumes it is advisable to prepare as good a seedbed as site conditions permit. Applications of lime and fertilizer should be based on local standards or on soil tests.

Usually a good stand can be obtained by broadcasting, drilling, or hydroseeding if other conditions are met. Mulching after seeding and then anchoring the mulch are essential in most areas. Irrigation is needed in many places.

Sodding is more costly than seeding, but it provides immediate protection. It should be used where the concentration of runoff is such that other methods of stabilization will not be effective. Sod can be laid anytime the soil is not frozen. Sod responds to a good seedbed and to lime and fertilizer. The strips of sod should always be laid across the slope, anchored to the soil, and watered. Some grasses can be established by sprigging and chunk sodding.

If trees are used to stabilize steep slopes, they are usually planted in pure stands. Mulching is important. Vines are usually established by transplanting individual plants or crowns.

Structural Measures

Where temporary and permanent protective vegetative cover will not suffice in providing adequate protection against erosion and sediment damage, other additional erosion control measures will be needed. These structural measures must be carefully selected in the proper combinations to accomplish the most effective job of erosion control. Most of the measures, when properly planned, present few problems for incorporation into the development.

The Soil Conservation Service had developed standards and specifications for installing and maintaining erosion and sediment control measures for construction sites. This booklet contains the standards and specifications for those measures most commonly used.

Additional information and technical assistance in developing plans and installing the needed conservation measures can be obtained through the local soil and water conservation district in the county in which you reside.

ESTABLISHING GROUND COVERS-VINES, SHRUBS and TREES on CONSTRUCTION SITES and URBAN DEVELOPMENTS

Definition

Stabilizing silt producing areas by establishing long-lived vegetative cover.

Purpose

To stabilize the area; to reduce damages from runoff and sediment to downstream areas; to enhance the beauty of the area.

Where Applicable

Graded or cleared areas subject to erosion. Where a long-lived vegetative cover other than turf is desired; to enhance environmental quality by providing landscape variety, wildlife food or cover, screening, and pedestrain or sound barriers.

Specifications Guide

A. Site preparation and plant selection

1. Grade and smooth the area as needed and feasible for planting the selected plant materials. These plants cannot be expected to prevent soil slippage on a soil that is not stable due to its structure, water movement or excessive slope.
2. Install needed surface water control measures.
3. The plant materials listed (see attached list) were selected because of their known conservation use, ability to grow on problem soil and site conditions and possess aesthetic value. Some of the plants establish easily on difficult sites while some will require careful site improvement before they will grow satisfactorily. The list is not complete but a listing of some of the more common plants.

B. Planting Time

1. Early spring is preferred for most plant materials. This allows for the maximum root and top development to check erosion and allows the plant to become established before winter. Planting season can be extended by using container grown or balled and burlaped plants.

C. Soil Preparation

1. Soils at most critical area planting sites should be amended by the addition of topsoil, compost, peat,

sawdust, manure or other organic material. Fertilizer will be used for each planting. Lime will also be required unless the soil is known to have a pH of 6 or above unless the plant requires an acid site.

2. For close spaced mass plantings apply a commercial granular fertilizer, such as 5-10-10 and organic supplement (such as composted cow manure, peat or well rotted sawdust), and work into the soil prior to planting. Fertilizer rate - 3 to 5 lbs. per 100 sq. ft. The amount of organic material needed will depend upon the soil and plant being used. Ground covers such as Pachysandra require a high rate of organic material, about a 2-inch layer worked into the root zone. Depending on the soil type and steepness of slope, the depth of soil working will vary from 4 to 6 inches.

3. For plantings on steep slopes and large area plantings working up the entire planting area would not be practical and would induce erosion. Instead, work up the soil in contour rows or dig single holes for each plant. Blend the needed lime, fertilizer and organic material with the soil removed from each hole or furrow. Great care must be taken to avoid fertilizer burn. Use it sparingly. Mix it thoroughly

with the soil before planting. If the soil on the site is not suitable for plant growth, it is best to batch blend a planting medium, such as a mixture of 1:1 or 2:1 sandy loam soil and peat, composted cow manure or well rotted sawdust and 10 lbs. of 5-10-10 and 20 lbs. of lime per cubic yard of soil mix. (If manure is used, delete the 5-10-10).

4. For spaced plantings of individual vines, shrubs or trees, single holes are dug for each plant. Holes must be at least a third larger than needed to accommodate the root system.

   If the soil removed from the hole is moderately suitable for plant growth, the organic material, lime and fertilizer may be blended with it and the mixture used for refilling. If the soil is very poor (such as parent material) mix up a bath of topsoil as described above and use for refilling. The soil around each plant must be thoroughly firmed and left in a saucer-like shape to retain water. The plant must then be watered and mulched. Support tall tree transplants with guy wires.

D. Mulching

1. The entire disturbed or bare area should be mulched with an acceptable mulch material to control erosion.

conserve moisture and suppress weeds. Sloping areas will be mulched with small grain straw, pine straw, wood chips or bark, excelsior or other weed-free material properly anchored.

2. Where erosion hazard is very high use heavy jute matting, excelsior blankets or fiberglass mats stapled to the soil. (See MULCHING specifications.)

E. Maintenance

1. Some watering, weeding, remulching and feeding may be required for new ground covers or spaced plantings during the period of establishment. Cultivation as such is not recommended as this may encourage erosion and might also cause some root injury. Competing weeds should be pulled.

2. If a controlled release fertilizer was not used at time of planting, fertilize the plantings the spring of the second growing season and thereafter as needed using 2 to 3 lbs. of a granulated commercial fertilizer such as 5-10-10 per 100 sq. ft.

SEED QUALITY AND PLANTING GUIDE FOR URBAN AREAS

A. The seed mixtures and specifications shall meet the minimum requirements as specified below:

1. Furnish the kinds and amounts of seed to be seeded in all

areas designated in the plans.

2. The minimum requirements for seed used in the vegetation work are as follows:
   a. All seed shall be labeled to show that it meets the requirements of the North Carolina Seed Law.
   b. All seed must have been tested within the six (6) months immediately preceding the planting of such material on this job.
   c. At least one bag tag for each kind of seed used shall be submitted with the final pay estimate.
   d. Inoculant - The inoculant for treating legume seed in the mixtures shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Inoculants shall not be used later than the date indicated on the container. Twice the supplier's recommended rate of inoculants will be used on dry seedings; four times the recommended rate if hydroseeded.

B. Quality of seed shall conform to the following: 1/

Legumes	Minimum Seed Purity %	Minimum Germination %	Maximum Weed Seed %
Crown Vetch	95	85	.50
Lespedeza, Korean	97	85	1.00
Lespedeza, Sericea			
Scarified	98	85*	.50
Unscarified	98	86**	.50
In the hull	80	80***	2.00
White Clover	98	90	.50

* May include 20% hard seed
** May include 50% hard seed
*** May include 55% hard seed

Grasses			
Bluegrass, Kentucky	85	80	.50
Fescue, Red	98	85	.50
Fescue, Tall (Ky.-31)	98	90	1.00
Redtop	90	85	.50
Reed Canarygrass	97	70	.50
Weeping Lovegrass	95	85	1.00

Annuals			
Barley	98	90	.10
Millet	98	85	.50
Oats	98	90	.10
Rye	98	85	.10
Ryegrass, common or Italian	98	90	.50
Sudangrass	98	85	.25
Wheat	98	90	.10

1/ Seed containing prohibited noxious weed seed should not be accepted. Seed should be in conformance with state seed law restrictions for restricted noxious weeds.

If seed of the accepted quality cannot be bought, secure prior approval before making changes or exceptions.

Adaptation of these species to soil and climate conditions in the region containing the Reservation is questionable.

TABLE #16

C. GRASS and LEGUME PLANTING GUIDE for CRITICAL AREAS and URBAN USES

Common Name	Botanical Name	1/ GERM Time Days	2/	Season		Drainage Class											Levels of maintenance		
			Growth Habit	Cool	Warm	Dry, Not Droughty	Well Drained	Somewhat Poorly Drained	ph Range	Flooding Tolerance	Critical Areas	Waterways & Channels	Shade Tolerance	Foot Traffic & Playgrounds	Lawns	Beautification	High	Medium	Low
Barley, Winter	Hordeum vulgare	7-12	A	X	-	-	X	-	5.5 -7.8	-	X	-	-	-	-	-	-	X	-
Bluegrass, Kentucky	Poa pratensis	21-28	P L R	X	-	-	X	X	5.5 -7.0	X	X	X	-	X	X	X	X	X	-
Canarygrass, Reed	Phalaria arundin	21	PL R	X	X	X	X	X	5.0 7.5	X	X	X	-	-	-	-	X	X	-
Fescue, Creeping Red	Festuca rubra	21-28	PL R	X	-	X	X	X	4.5 -7.5	X	X	X	X	X	X	X	X	X	-
Fescue, Tall (Ky.-31)	Festuca arundin	7-14	PL BR	X	-	-	X	X	5.0 -8.0	X	X	X	X	X	X	X	X	X	-
Lovegrass, Weeping	Erogrostis curcula	5-14	Ps B	-	X	X	X	X	4.5 -8.0	-	X	-	-	-	-	-	-	X	X
Millet Browntop Gahi or Star Foxtail	Setaria Panicum & Pennisetum spp.	7-	A	-	X	X	X	X	4.5 -7.0	-	X	-	-	-	-	-	-	-	X
Oats	Avena sative	10	A	X	-	-	X	-	5.5 -7.	-	X	-	-	-	-	-	_	X	-

GRASS and LEGUME PLANTING GUIDE for CRITICAL AREAS and URBAN USES (Cont.)

Common Name	Botanical Name	1/ Germ. Time Days	2/ Growth Habit	Season		Drainage Class			pH Range	Flooding Tolerance	Critical Areas	Waterways & Channels	Shade Tolerance	Foot Traffic & Playgrounds	Lawns	Beautification	Levels of Maintenance		
				Cool	Warm	Dry, Not Droughty	Well Drained	Somewhat Poorly Drained									High	Medium	Low
Redtop	Agrostis alba	10	Ps R	X	-	X	X	X	4.0 -7.5	X	X	X	-	X	X	-	-	X	X
Rye, Winter	Secale cereale	7	A	X	-	-	X	-	5.5-7	-	X	-	-	-	-	-	-	X	X
Ryegrass, Italian	Lolium multiflor	14	A	X	-	-	X	X	5.5-7.5	-	X	-	-	-	X	-	-	X	X
Sudangrass	Sorghum sudanese	10	A	-	X	X	X	X	4.5-7.5	-	X	-	-	-	-	-	-	X	X
Clover White (common)	Trifolium repens	7	Ps R	X	-	-	X	X	5.5-7.0	X	X	_	X	-	X	-	-	X	X
Crownvetch	Coronilla varia	14	Pl R	X	-	X	X	-	5.5-7.5	-	X	-	X	-	-	X	-	X	X
Lespedeza, Korean	Lespedeza stipulace	7 14	A	-	X	X	X	X	5.5-7.0	-	X	-	-	-	-	-	-	-	X
Lespedeza, serices	Lespedeza cuneata	7 28	Pl B	-	X	X	X	X	5.5-7.0	-	X	-	-	-	-	-	-	X	X
Wheat, Winter	Triticum aestivum	7 10	A	X	-	-	X	-	5.5-7.0	-	X	-	-	-	-	-	-	X	-

NOTES: 1/ Germination time days - No. days required for majority of seeds to germinate & emerge. (Temp. & moisture will affect this.)

2/ Growth Habit: A-annual; Bi-biennial; P-perennial; L-long-lived; s-short-lived R-rhizomatous or spreads by rootstocks; s-stoloniferous; B-bunch

3/ Excellent plant for lawns on sandy sites. Seed heads may be objectionable.

D. Guide to species Adaption for Critical Area Planting.

The plants listed in SPECIFICATIONS FOR PERMANENT GRASS AND LEGUMES ON CONSTRUCTION SITES are those which are most commonly used to establish permanent cover on critical areas where their principal use is erosion control. The effectiveness of these plants is often increased by using combinations of them in mixtures. The most useful of these as well as seedlings where only one species is used are listed below. These descriptions will help in selecting the type of planting needed.

1. Sericea lespedeza (scarified) - whenever sericea seed is used, be it scarified, unscarified, alone or in a mix, it should be the plant which has been selected as the predominant cover for the site. There is only one exception - when pines are to be overplanted. Sericea alone is used principally for flatter areas where a straw mulch over the seed will negate erosion. Might be used as future seed harvest or source of seed laden hay. For poor droughty sites. Do not use erosion control plantings of sericea for hay unless well fertilized and managed. To thicken stands, rotary mow after frost to scatter seed. Then mow mother plants when one foot tall the following spring.
2. Sericea lespedeza (scarified) with lovegrass - This is a stand "SCS mixture" much used because of good seedling

vigor or lovegrass. These plantings get off fast, look exceptionally good the first year. As time passes the longer lasting sericea prevails. At planting, do not use over 60 lbs. of nitrogen on lovegrass. Lodging will reduce sericea. For the very poorest, droughty and sandy sites.

3. Sericea lespedeza (unscarified) - May be fall planted with tall fescue or Abruzzi rye or overplanted on these grasses during the winter. Also winter plant over old plantings which are thinning or to patch such plantings. Frost action will cover seed if broadcast, but can be drilled. Unhulled sericea seed may be planted any time of the year. If during summer, enough seed will delay germination until the following spring to make a stand.

4. Serica lespedeza seed laden stems - Seed ripen in early October even though leaves remain green. Best time to cut is just before heavy frost. Stems may be cut with regular mower blade, raked and loaded or cut with a silage cutter and sprouted in trailer. No field drying is necessary. Stems make good mulch which does not blow away. No anchoring of mulch needed. This mulch is good over winter erosion protection. However, Abruzzi rye or tall fescue is usually used to green-up the planting and help stabilize the site. Use rye on driest

sandiest sites - fescue on "heavier" soils with more moisture.

5. Weeping lovegrass - Noted for early vigorous growth on poor dry sites. Will grow on acid sites. Tends to get clumpy with age. Excellent wildlife cover when mixed with sericea. Seldom used alone. Plant in rows across sandy waterways with sericea broadcast. Also used successfully with sericea for drainage ditch banks in the Coastal Plain. A standard roadbank mixture with sericea.
6. Tall fescue - Use on the better soil types which are not droughty and where a low growing evergreen cover is needed. On roadbanks use only where annual maintenance is possible. Excellent for medians and road shoulders where soils are not too poor and droughty.
7. Abruzzi rye - This one is noted for its quick cool season growth and its ability to prosper on poor sites and especially "s" land subclasses. Scarified or unscarified sericea is most often used with it as spring or winter overplantings. It is very competitive in early spring but matures and dies in late May. Full plantings are sometimes used to grow mulch in place one year and then broadcasting unscarified sericea

seed over the dead residue the following winter. Unless the areas are quite steep, mulch is not required to get the rye planting to germinate. A very useful plant.

8. Annual lespedeza - Excellent poor land plant. Too bad it's an annual! Volunteers for a few years but then thins out and disappears. It makes fast spring growth thus furnishing early cover. Roadbanks test proved that 6 or 7 lbs. per acre with a full seeding of sericea is beneficial. By the end of the second year, the sericea begins to take over. May be late fall or winter planted - like sericea.

SEEDING PERMANENT GRASS and LEGUMES on CONSTRUCTION SITES

Definition

Seeding perennial grasses and legumes on critical areas for permanent cover.

Purpose

To stabilize the soil; reduce damage from sediment and runoff to downstream areas, and improve an area for safety and beauty.

Where Applicable

On sediment-producing, highly eroding or severely eroding areas where vegetation is difficult to establish with normal planting methods; such as, construction sites, cut and fill slopes, borrow areas and other areas denuded of vegetation where perennial vegetation is needed for long term protection.

Specifications Guide

a. Site Preparation

1. Install needed surface water control measures.
2. Grade slope as feasible to use planned equipment for seeding, mulching and maintenance. Slopes steeper than 3:1 are difficult to establish vegetation on and maintain with conventional equipment. Consider retaining walls, ground cover plants, vines or shrubs on slopes of 3:1 or steeper.
3. Chisel compacted areas and spread available topsoil 3" deep over adverse soil conditions as a final operation in grading. Where conventional seeding equipment is to be used, rip the entire area.
4. A minimum of grading and shaping is required when hydraulic seeding equipment is to be used.
5. Remove all loose rock, roots and other obstructions from the surface that will interfere with establishment and maintenance of vegetation. Leave surface reasonably smooth and uniform for final seedbed preparation.
6. Perform all cultural operations of land preparation and seeding on the general contour.

B. Lime, Fertilizer and Seedbed Preparation

1. When soil material is reasonably uniform apply lime and fertilizer according to soil test report. In the absence of a soil test apply lime as follows:

	Tons/Ac.	Lbs/1000 Sq. Ft.
Clay and clay loams	3	135
Sandy loams, loams, silt	2	90
Loamy sands, sands	1	50

Agricultural lime used shall be within the specifications of the North Carolina Department of Agriculture.

2. Rates and analysis of fertilizer if soil test not available:

   a. Grasses alone - 800 to 1,000 pounds per acre (18-23 pounds/1,000 sq. ft.) of a 1-1-1 ratio such as a 10-10-10.

   b. Legumes alone or grass and legume mixture - 800 to 1,000 pounds per acre (18-23 pounds/1,000 sq. ft.) of a 1-2-2 ratio such as 5-10-10.

3. Phosphorous is essential for developing vigorous seeding root systems. If soil test is not available, apply 500 to 800 pounds (12-18 pounds/1,000 sq. ft.) per acre of 20% superphosphate or equivalent in addition to fertilizer listed above or use an analysis to supply the additional phosphorous.

4. When hydraulic seeding equipment is used, no seedbed

preparation is required. Cut slopes and compacted areas may require scarification.

a. The fertilizer, seed and wood cellulose fiber mulch will be mixed with water and applied in a slurry. Spread the mixture uniformly over the area.

b. The lime will be mixed with water and applies on top of straw mulch or the lime may be combined with the top dressing when grass is 2 to 4 inches tall.

3. When conventional equipment is used, the lime and fertilizer will be applied uniformly and mixed with the soil during seedbed preparation.

a. On field conditions or slopes that are 3:1 or flatter, prepare a seedbed 4 inches deep, excluding rock.

b. On slopes steeper than 3:1, prepare a seedbed 1 to 4 inches deep as determined on site. Scarify the surface with suitable equipment such as chain harrow, grader with chisels attached or by hand. The surface as a minimum will be pitted or trenched 4 to 8 inches apart for seed to lodge and germinate.

c. Continue tillage until a well pulverized, firm, reasonably uniform seedbed is prepared.

c. Seeding

Select species from attached table, considering plant adaption to desired use, site to be vegetated, seeding dates and maintenance requirements. Seed used shall be labeled to show they are within the requirements of the North Carolina Department of Agriculture as to purity, germination, and presence of restricted of prohibited weeds. Erosion control plans or seeding contracts should list species or mixtures to be used, planting dates, seed germination and purity that are acceptable.

1. Conventional seeding - Seed on a freshly prepared, firm seedbed. Use equipment that will apply seed uniformly such as cultipacker seeder, drill, or cyclone seeder by hand. Cover seed lightly with seeding equipment or cultipack after seeding.
2. Hydraulic seeding - Mix the fertilizer, seed and wood cellulose fiber mulch with water and apply the slurry uniformly over the area being treated. The slurry must be applied within one hour after mixing the seed with fertilizer.
3. Use the inoculant prepared specifically for any legume being seeded. Twice the recommended rate will be used when seeded dry with conventional equipment and four times the recommended rate when seeded with hydraulic equipment.
4. Mulching - Mulch all permanent seedings on critical areas immediately after seeding unless sufficient

mulch is present from previous temporary vegetation grown. Mulch is essential to protect seedlings and the area from erosion until plant cover is established. Refer to MULCHING specifications for kinds, amounts, and anchor mulch.

5. Irrigation - Supplementary irrigation will speed up the establishment of plant cover most seasons and may prevent failure of seedlings not made at optimum planting date or seedings on adverse site conditions. Where irrigation is used, water must be applied at a rate that will not cause soil movement.

D. Treatment after seeding and maintenance is the most important controlable factor in retaining an effective vegetative cover. The kind of grass or grass-legume, soil, weather and the level of management one desires to give a seeding determine the fertilization needed after the first year.

1. Repairs - Inspect all seeded areas and make necessary repairs or reseedings within the planting season, if possible. If stand should be over 60% damaged, reestablish following original lime, fertilizer and seeding recommendations.

2. Control weed growth during establishment mechanically and/or with herbicides. When chemicals are used, follow current North Carolina Agricultural Experiment Station's

weed control recommendations and adhere strictly to instructions on the label.

PERMANENT SEEDINGS

	PLANTS & MIXTURES 1/	PLANTING RATES/ ACRE 2/	PLANTING DATES Mountains 3/	NOTES
1.	Crownvetch	15-20 lbs.	Mar.15-April	Best in mountains and upper Piedmont. Requires a pH of +6 and maintenance of lime, P & K every 3-4 years. Slow to establish with seeds. Good plant on slopes that will not be mowed. Refer to specification for VINE, TREES & SHRUBS.
2.	Crownvetch Tall Fescue	10-20 lbs. 20-30 lbs.	Mar.15-April	Avoid wet sites. Mow only to control brush. Fescue used to increase land cover during establishment of Crownvetch
3.	Sericea Lespedeza Weeping Lovegrass	40-50 lbs. (scarified) 4-5 lbs.	Apr.-May	Lovegrass, provides quick protective cover.
4.	Sericea Lespedeza (scarified) Tall Fescue	40-50 lbs. 25-30 lbs.	Apr.-May	Scarified. Sericea may be spring seeded on Fescue that was seeded the previous Fall
5.	Sericea Lespedeza (unscarified) Tall Fescue	50-60 lbs. 25-30 lbs.	Nov.-Mar.	If Sericea seed unavailable at planting time, it may be overseeded on Fescue later in the winter.

PLANTS & MIXTURES 1/	PLANTING RATES/ ACRE 2/	PLANTING DATES Mountains 3/	NOTES
6. Sericea Lespedeza (unhulled-unscarified) Tall Fescue Millet or Sudan	60-70 lbs. 20-30 lbs. 15-20 lbs.	July-Feb.	Include summer annuals in early seedings only. If Sudan growth exceeds 10" mow.
7. Tall Fescue	40-60 lbs.	July 15-Sept. Mar.-May	Seeding date in mountains varies with elevation and aspect. Good shade tolerance. Double seeding rate for lawn quality turf.
8. Tall Fescue and White Clover	30-50 lbs.	July 15-Sept. Mar. & Apr.	Can be used where regular mowing is desired and high level of maintenance will be provided.
9. Tall Fescue and Red Fescue	30-40 lbs	July 15-Sept Mar. & Apr.	Red fescue in this mixture has a tendency to fill in voids. It is shade tolerant.
10. Tall Fescue and Bluegrass	30-40 lbs.	July 15-Sept. Mar.-Apr.	Limited to fertile, well-drained soils. Shade tolerant
11. Tall Fescue and Browntop Millet or Sorghum-Sudan Hybrids	60 lbs. 35 lbs. 30 lbs.	July-Aug.15	Keep annuals cut back to 10-12"
12. Tall Fescue and Rye	70 lbs. 25 lbs.	Oct.-Feb.	Use only when necessary to complete a job. Mulching will be necessary to provide erosion control. Keep annuals cut back to 10-12"

PLANTS & MIXTURES 1/		PLANTING RATES/ ACRE 2/	PLANTING DATES Mountains 3/	NOTES
13.	Reed Canarygrass	15-20 lbs.	Mar.-July	Excellent on berms, stream banks and poorly drained sites. Do not use on small streams with low velocity.
14.	Weeping Lovegrass	4-5 lbs.	May-June	Gives quick summer cover-well adapted to droughty sites-best in mixtures with Sericea Lespedeza. Tends to become clumpy with age.

1/ There will be conditions and interest that will warrant the use of other plants or mixtures not listed in the above table. Their use should be evaluated for each site.

2/ Some rules of thumb for conversions:
Lbs./Ac. x .023 = Lbs./1,000 sq. ft.
Sq. Ft. of area x .000023 - Acres (valid up to 10 acres)

3/ Seeding dates will vary by season, temperature and rainfall.

3. Lime

Apply lime according to soil test recommendations for plants being grown. In the absence of a soil test, apply lime from October to March every 4-5 years at rate of 2 tons per acre (100 lbs/1,000 sq.ft.)

4. Fertilizer

Permanent seedings will be fertilized the next growing season after planting. For the warm season plants, this would be early spring (sericea, etc.); for the cool season plants, early fall or early spring (tall fescue, bluegrass, etc.)

Follow a regular fertilizer program based on soil test reports and use being made of the vegetative cover. The following fertilization guide is the minimum level that can be expected to maintain land cover. For a quality turf that is mowed regularly, or is subject to heavy use and/or irrigated, much higher fertilization rates will be required.

a. Stand is primarily Tall Fescue, Bluegrass and mixture of Tall Fescue-Red Fescue and similar cool season plants. Apply 500 lbs. per acre (12 pounds per 1,000 sq.ft.) of 10-10-10 or its equivalent in early fall annually. Additional

Additional fertilization with nitrogen or a complete fertilizer is needed in early spring.

To reduce incidence of leaf diseases, do not apply N on Fescue or Bluegrass from May to mid August in hot humid areas.

b. Stands of Lovegrass and similar warm season grasses. Apply 500 pounds per acre (12 pounds per 1,000 sq.ft.) of 10-10-10 fertilizer or equivalent when the plants start to green up in the spring. Topdress with 60-90 pounds of nitrogen per acre (1-2 pounds per 1,000 sq.ft.) during the growing season. When the higher rate is used, apply in split applications.

c. Stands of Sericea Lespedeza, Crownvetch and similar Legumes. Fertilize in early spring with 500 pounds of 0-10-20 (12 pounds per 1,000 sq.ft.) or equivalent per acre, every 2-4 years.

d. Mixtures of Sericea Lespedeza, Fescue or Lovegrass. Fertilize in early spring with 500 pounds per acre (12 pounds per 1,000 sq.ft.) of 5-10-10 or equivalent every 2-3 years. In Fescue-Sericea Lespedeza mixture, apply in the fall if the Sericea Lespedeza is developing better than the Fescue.

e. Fescue-White Clover, Bluegrass-White Clover and similar mixtures. Apply 500 pounds per acre (12 pounds per 1,000 sq.ft.) of 0-20-20 or equivalent in early fall. An additional application of nitrogen or complete fertilizer will be needed in the spring to keep plants lush and in balance. Where grass is crowding out the clover, reduce or elimiate spring application of nitrogen.

5. Mowing

Mow Sericea Lespedeza, or Sericea grass mixtures only after frost or sericea seed are mature. Bluegrass should be mowed not closer than 2 inches and Tall Fescue not closer than 3 inches. Mow Crownvetch only when necessary to control bushes. If mowing is done, it should not be lower than 12 inches.

Care should be taken not to damage the vegetation mechanically through use of improper mowing equipment by attempting to mow with heavy equipment on steep slope when the vegetation is lush and slippery or when the ground is soft enough to be rutted by mower or tractor wheels.

Where mowing fails to control weeds satisfactorily, apply chemicals in accordance with current North Carolina Agricultural Experiment Station's weed control recommendations and adhere strictly to instructions on label.

CAUTION: Pesticides are dangerous. Use only as directed and heed all precautions on the container label. Check the registration number and be sure that the directions for use include the target pests. Drift from aerial spraying can contaminate nearby crops, lakes, and reservoirs. Improper use and careless disposal of unused portions can lead to poisoning of humans, domestic animals, desirable plants, pollinating insects, fish, and wildlife and can contaminate water supplies.

SOURCE: "Guide For Sediment Control on Construction Sites" in North Carolina

U.S. Department of Agriculture
Soil Conservation Service
Raleigh, North Carolina

U.S. Department of Agriculture
Soil Conservation Service
Andrews, North Carolina

U.S. Department of Agriculture
Soil Conservation Service
Bryson City, North Carolina

ARCHAEOLOGICAL REMAINS ON THE QUALLA RESERVATION, NORTH CAROLINA

The Research Laboratories of Anthropology
University of North Carolina
Chapel Hill

December 1971

ARCHAEOLOGICAL REMAINS ON THE QUALLA RESERVATION, NORTH CAROLINA

Introduction

The purpose of this document is to bring to the attention of the Tribal Planning Board, Eastern Band of Cherokee Indians information relating to archaeological remains present on the Qualla Reservation. This information, hopefully, will make it possible to preserve, develop, or salvage much of the cultural heritage of the Cherokee that exists on the reservation at the present time

It will be suggested below that a formal procedure be adopted by the planning board to insure that no unnecessary loss of cultural objects and information be suffered by the Eastern Band of the Cherokee in the future.

The Research Laboratories of Anthropology, University of North Carolina at Chapel Hill has been interested in Cherokee culture since its organization in the 1930's. In the '30's and early '40's the Laboratories carried out both surveys and excavations in the Cherokee area. Since 1965, the Laboratories has expended the majority of its resources in trying to gain a comprehensive view of Cherokee prehistory. The results of this research make it possible to outline in some detail the cultural growth of the Cherokee tribe over the last several thousand years. Because many questions still remain to be answered concerning the development of Cherokee culture, the Laboratories plans to continue its research for sometime yet to come.

Data regarding the 18th Century and earlier Cherokee remains present on the Cherokee lands in Western North Carolina is at best sketchy. Most of our information comes from private individuals, a two-day survey, and reports and collections made by other institutions. These data will be treated in a following section.

The Need for Preservation of Cherokee Archaeological Remains

The modern archaeologist is interested in the cultural and physical remains of prehistoric peoples for a number of reasons. The principal reason, regardless of his particular theoretical frame of reference, is that these data offer the only source of information relating to mankind's previous achievements and conditions. Because this information is unique and irreplacable, all possible steps to preserve it must be taken. This view is not a relatively new concept. In fact, the humanistic value of earlier cultures was recognized and protected from unwarranted destruction by the Federal Antiquities Act of 1906 (P. L. 34-209, 34th Congress S.L. 225, June 8, 1906).

Unfortunately, the Federal Antiquities Act has not always been employed to preserve the remains of previous cultures. The failure to utilize this act has, for the most part, been due to lack of information by the agencies responsible for federally controlled lands. Hopefully, this document will provide such information in respect to the Cherokee lands of North Carolina.

The preservation, development or salvage of archaeological information present on the Cherokee lands offers the following specific benefits.

First, by preservation the remains of earlier human societies will be available in the future for investigation.

Secondly, information obtained from archaeological sites on Cherokee lands can be used to fill out existing gaps in the present knowledge of Cherokee culture history.

Thirdly, development of one or more archaeological sites on the reservation would offer additional information on Cherokee cultural history, as well as enjoyment, enrichment, and understanding for visitors to such a site.

Fourthly, the salvage of information from sites which are to be destroyed by various forms of construction for the benefit of the present citizens would also provide much desirable information.

Finally, and most importantly, the results of such work can produce a real understanding and appreciation of Cherokee culture by all groups of American society.

An Outline of Cherokee Prehistory in North Carolina

During the last decade a chronological framework (Fig. 1) outlining Cherokee cultural development has been developed by the Research Laboratories of Anthropology at the University of North Carolina.

The latest temporal unit is called the Qualla Period. This period is believed to have begun by about A.D. 1600 and was present in most of western North Carolina until the removal of the Cherokees in the 1830's. In fact, ethnographic data indicates that older Cherokee women were making pottery in the Qualla style as late as 1912. It is during this period that the bulk of historical information pertains. The possibility of 16th century Europeans contact with the Cherokee by Hernand de Soto and Juan Pardo cannot be discounted but they have yet to be demonstrated.

During this period, particularly after 1700, numerous maps and documents locate and describe Cherokee towns and lifeways. These documentary sources are invaluable in the study of Cherokee history.

Preceding the Qualla period, from about A.D. 1100-1550, the Pisgah period is characterized by pottery and settlement patterns quite distinctive from either earlier or later Cherokee remains. During this period at least some village were surrounded by palisades and pottery manufacture was influenced by developments in mid-western ceramics. During the Pisgah period we find the basic Cherokee dwelling and townhouse architecture well developed. Agriculture as the basic subsistence economy was developed during this time.

DATE	PERIOD	CERAMIC TRADITION
A. D. 1800	QUALLA	SOUTH APPALACHIAN
1000	PISGAH	
	CONNESTEE	NORTHERN WOODLAND + SOUTH APPALACHIAN
0	PIGEON	SOUTH APPALACHIAN
	SWANNANOA	NORTHERN WOODLAND
1000 B. C. 2000	SAVANNAH RIVER	
3000	GUILFORD	
4000	MORROW MOUNTAIN	
	EARLY ARCHAIC COMPLEXES	

FIGURE #1

CULTURAL SEQUENCE of the APPALACHIAN SUMMIT AREA

In the earlier Connestee period (A.D. 300-1000) the subsistence economy was based on hunting and collecting. Perhaps, agriculture had its beginning during the latter part of this period. Beyond the ceramics, chipped stone, and other classes of artifacts little is known about this period. The first mounds were built during this period. The only one thus far excavated in recent times (1965) was a substructure mound for a townhouse. Unfortunately, due to excavations conducted at this site in 1880, severe erosion brought about by cultivation of the site, and recent destruction, important information was destroyed prior to our investigation. Nonetheless, we did discover evidence at this site which showed that during the Connestee period at least trade relations had been established with peoples in Ohio, Tennessee and Florida. Certain cultural traits present in Northern Georgia, Eastern Tennessee, and Western North Carolina began to cluster in this period producing a homogeneity of ideas not seen in surrounding areas. This period may represent the first crystallization of Cherokee Culture.

Earlier, from perhaps 200-300 B.C. to A.D. 300, the Pigeon period is represented by a kind of pottery which shows strong affinities to the south. Little is known in detail about the Pigeon Culture other than it preceded the Connestee Culture and is later than the Swannanoa Culture.

The Swannanoa Culture period dates from several hundred years before the birth of Christ until the beginning of the Pigeon period (ca 200-300 B.C.). Like the Archaic cultures which proceeded it for several thousand years and the Pigeon and Connestee cultures that followed, the Swannanoa people were hunters and gathers who relied on game and local plants for their subsistence. Their culture is a continuation of a life style that had slowly developed during the preceding several millenia. New ideas were accepted, however, and the bow and arrow and pottery were used for the first time. Data collected during 1965-1971 suggest that by this time fairly large villages were being occupied. Outside relations during the early part of the Swannanoa period seem to have been primarily enjoyed with cultures to the north whereas during the latter part of the period, southern influence which was beginning would become much stronger in the Pigeon period.

Preceding the introduction of ceramics into the area several Archaic period cultures were present. The best known of these, at the present time, is a Savannah River phase assemblage which has been found stratigraphically earlier than the Swannanoa phase component at the Warren Wilson site in Buncombe County. This period dates from the second millenia B.C. to the development of the Swannanoa phase. An earlier Archaic period assemblage, Morrow Mountain, was encountered below the Savannah River Component at the Warren Wilson site. This assemblage is dated from

4500-5000 B.C.. Even earlier artifact types have been recovered in the Appalachian Summit area. Some of these types suggest occupation of the area by at least 10,000 years ago.

The preceding outline of the culture periods thus far defined in the area has been presented to acquaint the reader with some basic information which will make the subsequent appraisal of archaeological sites on the Qualla Reservation more meaningful to the non-archaeologist.

Appraisal of Archaeological Sites on the Qualla Reservation

The twelve sites that have been located on the Qualla Reservation will be described and evaluated in this section. Ten sites, Sw^v3, Sw^v6, Sw^v7, Sw^v8, Sw^v10, Sw^v15, Sw^v16, Sw^v17, Sw^v38, and Sw^v44 are located in the Swain County portion of the reservation, whereas two sites, Jk^v7 and Jk^v8 are located in Jackson County. The site locations, except for Sw^v44, are shown in Figure 2.

Sw^v3 - Nununyi

This site is located on the east bank of the Oconaluftee River southwest of the new Cherokee Municipal building. The site (Fig. 3) is characterized by an artificial mound surrounded by an extensive village midden. William Bartram who visited the Cherokee area in 1776 referred to the site an Nuanhi and included it in his list of upper towns. The site is shown on the Hunter Map of 1730 as Newni and on the Kitchen Map of 1755 also as Newni. The town was destroyed in October of 1776 by Col. William Moore of the North Carolina militia.

In terms of the complexity of the site, very little is known archaeologically. To be sure, Edward Valentine dug in the mound in 1882 and reported finding a "burnt clay floor" beneath which he found twenty-six burials. Valentine's work consisted of 3 trenches. One trench ran across the mound from northeast to southwest (Trench A) whereas the other (Trench B) ran from northwest to southeast. The third trench (Trench C) was an arc which was tied to the ends to Trenches A and B across the northeast section of the mound. Of some special interest, are the trade beads he reported finding. This evidence indicates that the mound was in use after trade with whites had been established. In spite of Valentine's inadequate work, there is still a great amount of information to be found in the mound.

The village site associated with the mound is quite extensive in size and has some depth. Data regarding the village area was collected in 1964. At that time several sections of the north wall of a drainage ditch which runs through the village were cleaned off in order to record the natural and cultural stratigraphy of the site (Fig. 4). The stratigraphy revealed in these profiles consisted of a fine yellow sand at the base of the cut over which rested a light brown sand containing some cultural material. On top of the light brown sand a midden zone composed of very dark soil, mixed with ash, fired clay, shell, artifacts, and house remains had developed. This layer which varied in thickness from 0.5 ft. to 1.5 ft. had been truncated by plowing. The plowed soil also contained an abundance of cultural remains. Richard Crowe reported to the writer that several skeletons had been removed when the area north of the ditch had been dug into during the development of Cherokee Wonderland, Inc.

An analysis of the ceramics recovered from the surface and the ditch suggest that the site was not occupied extensively until after the beginning of the Qualla period. Furthermore, the presence of shell-tempered pottery suggests relationships with the Overhill Cherokee of Tennessee.

Nununyi ("Potato town") is the most important site on the reservation. It contains a wealth of information regarding the development of Cherokee culture. The mound at this site is the only earthwork built by the Cherokee that is still possessed by the Eastern Band. Under no circumstances should any further developments in this area be allowed until steps can be taken to preserve the information this site contains. If the tribe wishes to develop this area, they should recognize that archaeological research should be carried out here as part of the development. This site could be restored to its pre-1776 condition

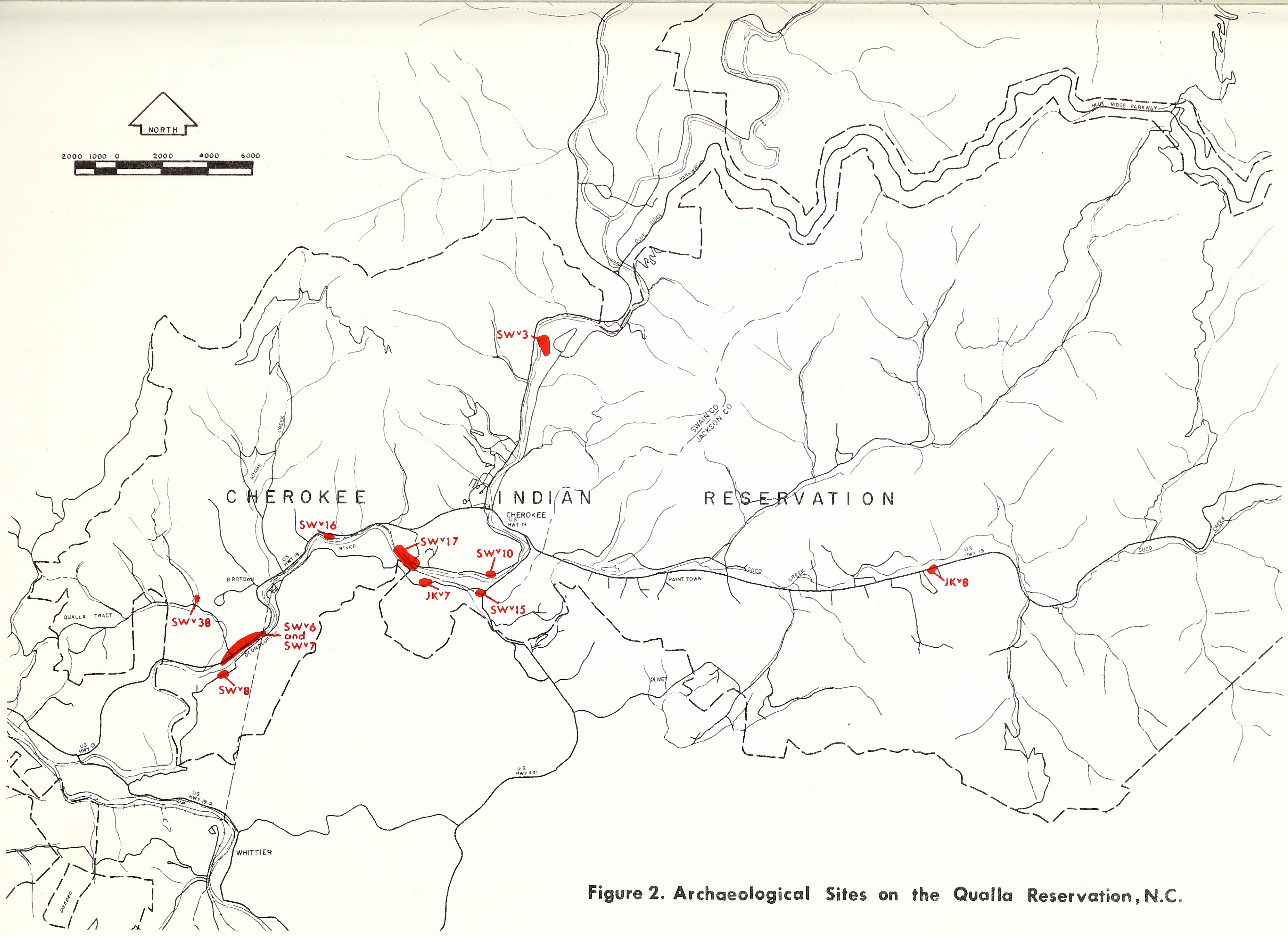


Figure 2. Archaeological Sites on the Qualla Reservation, N.C.

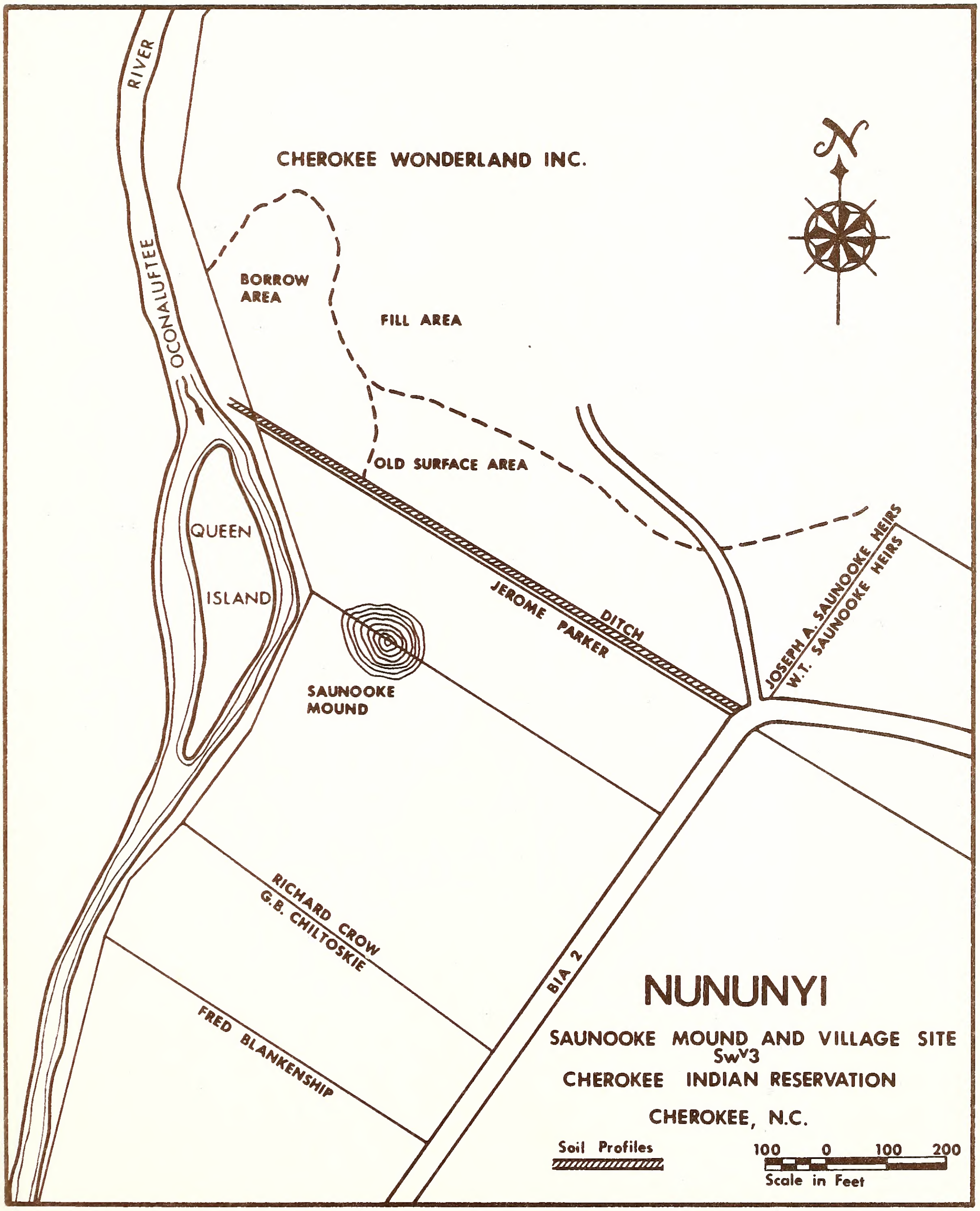


Figure 3. Map of Nununyi, Sw^{v}3

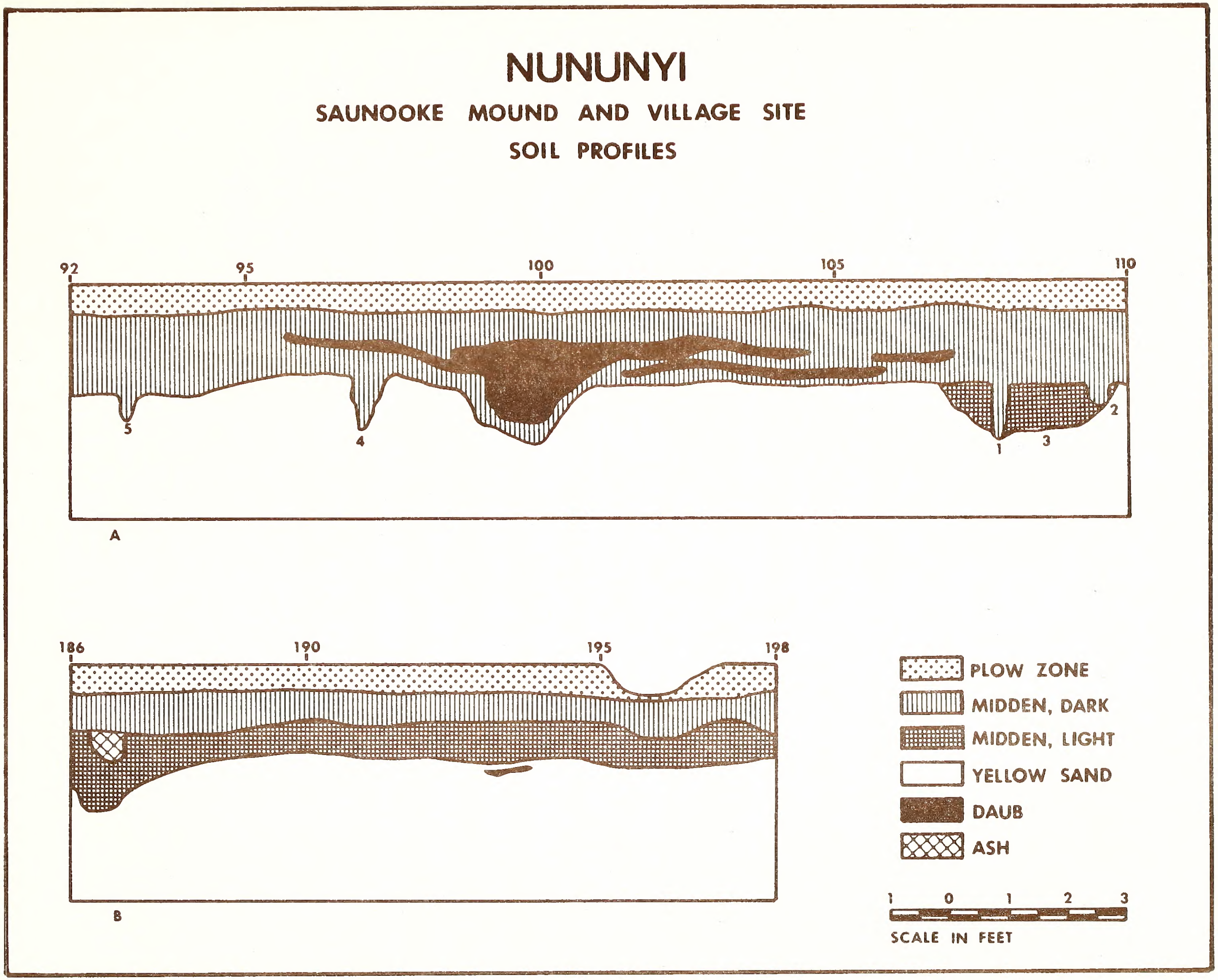


Figure 4. Stratigraphy of Village Area, Nununyi, Sw^{v}3.

by the use of archaeological and restoration techniques developed by the Research Laboratories of Anthropology at Town Creek Indian Mound State Historic Site. Such a development would add to the tourist interest of the reservation and compliment Ocanaluftee Village.

Sw^{V}6, Sw°7, and Sw^{V}8

These sites are located at Birdtown. Sw^{V}6 and Sw°7 are located on the northern bank of the river and Sw^{V}8 is located on the opposite shore. The sites seem to form a single larger settlement. This area has been identified as Tsiskwaki ("Bird place") and pre-historically Egwanulti ("Besides the river") or Ocanaluftee.

The mound, Sw°7, was totally destroyed by Edward P. Valentine in 1883. Information concerning Valentine's excavation at Birdtown is even more fragmentary than that relating to his work at Nununyi. He described the Birdtown earthwork as 100 ft. long, 93 ft. wide, and about 8 ft. high. He claimed to have totally explored the mound. The Valentine expedition recovered some glass beads, a razor, stone and clay artifacts, and encountered five human skeletons. Surface collections from the site suggest that although the site was most heavily used during the Qualla period earlier occupations occurred. Both Pisgah and Connestee ceramics have been found at the site and projectile points from the Archaic period are represented in the collections.

Even though the mound (Sw^{o}7) was dug during the 19th century when excavators were concerned only with relic collecting, there remains a good possibility that substantial information can be obtained from the village area (Sw^{V}7 and Sw^{V}8). Before any development is allowed to occur at these sites, they should be tested to ascertain the exact nature of the remains present.

Sw^{V}10 and Sw^{V}15

These sites are located about three-fourths of a mile from downtown Cherokee. Sw^{V}10 is on the north bank of the Ocanaluftee and Sw^{V}15 is located across the river. Both of these sites are quite small. The bulk of the ceramics found on the surface suggest that the major occupations were after A. D. 1600 but Pisgah and Connestee period occupations are also represented in the pottery collection. These sites have not been identified with any particular historic Cherokee town. They may represent farmsteads associated with Nununyi (Sw^{V}3).

Neither of the sites are worthy of preservation or total excavation, but before they are destroyed they should be sampled.

Sw^{V}16

This site is located immediately west of Bethabara Baptist Church, or about 1.4 miles west of Cherokee on U. S. 19. Only a few items were found on the surface. These relate to a Qualla period occupation. Before dismissing this site as unimportant, it should be pointed out that when the site was discovered, it was in grass and weeds. Consequently, an accurate appraisal of the potential cannot be made at this time.

Should some type of development be planned for Sw^{V}16, it is recommended that test excavations be made prior to any action which would be destructive to the archaeological remains.

Sw^{V}17

This site is located on the north bank of the Oconaluftee River about a mile west of Cherokee. In 1964 when the surface collection was made, the area was planted in a tomato crop. Since the field was plowed, it was possible to obtain a fairly large surface collection. The ceramic sample suggests a major Qualla period occupation, however, sizeable quantities of Connestee and Pigeon ceramics were also present. Although the remains of Connestee and Pigeon occupations occur throughout western North Carolina in small numbers, the large quanitity of these ceramics present at Sw^{V}17 is of special interest. An excellent possibility exists that the site is stratified. If this is the case, then a greater amount of information can be obtained than if the several occupations occurred on a single surface.

It should also be pointed out that the area between Sw^{V}17 and Sw^{V}10 has an identical topography to these sites. Because this area was in grass and weeds at the time of the survey, no material was located there. However, it is possible that sites Sw^{v}10 and Sw^{v}17 should be expanded to include much of this area. Until this area is cultivated or tested for archaeological remains, all that can be said is that the presence of remains in this area would not be unexpected.

The importance of Sw^{v}17 is second only to Nununyi. It should be thoroughly excavated before any destruction of the present remains is allowed.

Sw^{v}38

No importance is attached to this site which is located on a branch of Goose Creek just north of Birdtown. Only a crude Savannah River projectile point was recovered here. This site has no potential for expanding our knowledge.

Sw^{v}44

The collection from this site amounted to only two Qualla period potsherds. This site is not shown on Figure 2. It was reported to the Research Laboratories by a private individual in 1962. The location was given as west side of Raven Fork Creek. Our 1964 survey of the area indicated that no substantial site is present on Raven Fork Creek, No importance is given to this site.

Jk^{V}7

This site is located across the Oconaluftee River and a short distance above Sw^{V}17. The surface collection suggest a Qualla period occupation. It should be tested before it is destroyed.

Jk^{V}8

A small surface collection was obtained from this site. The site is located about three miles east of Cherokee and 0.4 miles east of Soco School on the south side of Soco Creek along a small tributary stream. As with other sites on the reservation, a Qualla period occupation is in evidence. The archaic period is represented by a Savannah River Stemmed point. This site is not considered important and no great loss would be encountered should it be destroyed.

Summary

The twelve sites recorded on Qualla Reservation have been described in some detail above. These sites range in size from several acres to a few hundred square feet. They also vary greatly in historical and scientific importance. One site, Nununyi, is of major significance because it can be identified from historical documents and a terminal date (1776) for its last major occupation is known. A second site of major importance is Sw^{V}17. This site offers an excellent opportunity for the study of the earlier cultures of the area. The group of sites (Sw^{v}6, Sw°7, and Sw^{v}8) at Birdtown are considered to have some importance. The three localities, Sw^{v}3 (Nununyi), Sw^{v}6, Sw°7, and Sw^{v}8 (Birdtown), and Sw^{v}17 should be investigated thoroughly before they are destroyed. Nununyi (Sw^{v}3) should be preserved and developed.

A group of sites composed of Sw^{v}10, Sw^{v}15, Sw^{v}16, and Jk^{v}7, are of secondary importance. However, these sites should be tested before their destruction is permitted.

A third group of sites of little importance is composed of Sw^{v}38, Sw^{v}44, and Jk^{v}8. Their destruction would be of no great archaeological loss.

Conclusions and Recommendations

In the preceding sections of this study, the need for the protection and study of archaeological remains on the Qualla Reservation have been presented and twelve sites have been described and evaluated. In view of the rapid commercial and industrial growth taking place in this area, as well as future highway construction, it is felt that now is the appropriate time to suggest a procedure which will insure that the cultural heritage and scientific data contained in a number of these archaeological sites is not lost. The adoption of this procedure by the Tribal Planning Board and the Tribal Council would forestall any further losses such as occurred at Nununyi ($Sw^{v}3$) with the development of Cherokee Wonderland, Inc. The firm application of the Federal Antiquities Act (Public Law 34-209, 34th Congress S.L.225) would insure proper protection and investigation of these remains.

It is suggested that as a matter of policy the Tribal Planning Board require a thorough archaeological investigation of sites $Sw^{v}3$, $Sw^{v}6$, $Sw^{o}7$, $Sw^{v}8$, and $Sw^{v}17$ before any additional development or construction is allowed in these areas. It is further suggested that the Tribal Planning Board, as part of its long term planning, have a thorough archaeological survey of the reservation conducted. Such a survey would provide additional information on archaeological remains on the Qualla Reservation and the other tracts owned by the Eastern Band of Cherokee. Finally, it is suggested that the discovery of any archaeological materials chanced upon during construction be brought to the attention of the Planning Board. This information could be passed on to archaeological consultants to the Planning Board for immediate evaluation.

EARLY HISTORY OF THE CHEROKEES

At the beginning of the nineteenth century the Cherokees were the most powerful and the most civilized of all the North American Indians. Their possessions, which at one time extended from the eastern slope of the Blue Ridge Mountains almost to the Mississippi and from northern Kentucky to central Alabama and Georgia, though greatly diminished, still covered territory of firfty-three thousand square miles, almost half of which lay in Tennessee, a small area in southwestern North Carolina, the rest being equally divided between Alabama and Georgia. They were the mountaineers of the South, holding the mountain barriers between the English settlements on the Atlantic Seacoast and the French and Spanish garrisons in the Mississippi Valley and on the Gulf Coast.

They called themselves Yun-wi-yah, meaning principal people. The name Cherokee or Cheraqui has been given more than one interpretation. According to one version it is a contraction of two words meaning "He takes fire".[1] It was believed by the Spaniards to signify rock-dwellers, and was probably given them by neighboring tribes as descriptive of their mountain country,[2] which, according to Bancroft, was the most picturesque and salubrious region east of the Mississippi. "Their homes are encircled by blue hills rising beyond blue hills, of which the lofty peaks would kindle with the early light and the overshadowing night envelop the valleys like a cloud,"[3] David Brown, a Cherokee youth educated at Cornwall, Connecticut, writing in 1822, describes it as a well-watered and fertile region. "Abundant springs of pure water are to be found everywhere," he says. "A range of lofty and majestic mountains stretch themselves across the nation, the northern part of which is hilly while in the southern and western parts are extensive and fertile plains, covered partly will tall trees through which beautiful streams of water glide. The climate is delightful and healthy; the winters are mild and the spring clothes the ground with richest verdure. Cherokee flowers of exquisite beauty and variegated hues meet and fascinate the eye in every direction."[4]

Cradled in such surroundings, it is not strange that the Cherokees were instinctively artistic and responsive to every form of natural beauty. The song of bird and the delicate fragrance of wild flower delighted while the massive grandeur of mountain and forest filled with awe and admiration these children of the wilderness, often inspiring their minds to lofty flights of fancy which sometimes found expression in metaphors of exceeding subtlety and beauty.

Attachment to their ancestral homes was strong and sincere and had its root deep in the past of their domestic and religious institutions. As is always the case when a primitive people has dwelt for a long time in the same region, their legends had become localized and were associated with mountain peak and prominent rock and tree, with spring and cave and deep riverbend.

The English traveller Bartram describes the people of this tribe as of larger stature and fairer complexion than their southern neighbors. "In their manner and disposition they are grave and steady; dignified and circumspect in their deportment; rather slow and reserved in their conversation, yet frank, cheerful, and humane; tenacious of the liberties and natural rights of man; and ready always to sacrifice every pleasure and gratification even their blood and life itself, to defend their territory and maintain their rights."[5] The men are described as tall, erect and moderately robust; their features formed with perfect symmetry; their "countenance cheerful and friendly; they move with a becoming grace and dignity."[6]

They were a religious people: but "never in their most savage state did they worship the work of their own hands, neither fire nor water".[7] They believed in a Great First Cause, in a spirit of Good and a spirit of Evil in constant warfare with each other, the Good finally prevailing. Heaven, an open forest of shade and fruit trees, was adorned with fragrant flowers and mossy banks beside cool sparkling streams; game abounded and there were enough feasts and dances to satisfy but not to cloy the appetite for pleasure. This happy and immortal region, reserved for beautiful women prepared and adorned by the Great Spirit and men distinguished for valor, wisdom, and hospitality, lay just across the way from the land of Evil Spirits, where the wretched who had failed on earth were compelled to live in hunger, hostility, and darkness, hearing and seeing the rejoicings of the happy without the hope of even reaching the delectable shores.

Witches and wizards were abroad in the land, who professed supernatural powers and were supposed to have communication with evil spirits and to have the power of transforming themselves into beasts and birds, in which forms they took nocturnal excursions in pursuit of human prey, usually, though not always, those stricken with disease. The croak of a frog or the hoot of an owl in the twilight was enough to strike terror to the heart of the bravest Indian child, who verily believed that the witches "would get him if he didn't watch out."[8]

Adair, who for forty years was a trader among the southern Indians and travelled extensively through their country between 1735 and 1775, describes the Cherokees as living in villages situated beside "cool, sparkling streams,"[9] in which they bathed frequently, either as a religious rite or for the purpose of seasoning the body and rendering it indifferent to exposure. "They are almost as impenetrable to cold as a bar of steel," he declares.[10]

Their villages lay in four main groups:[11] the Lower Settlements laying upon the head streams of the Savannah, the Middle Settlements on the Tennessee and its southern tributaries; the Valley Towns west of them between two ranges of the Blue Ridge Mountains; and the Overhill Settlements on the Little Tennessee between the Blue Ridge and Holston. Besides these main groups were scattered towns situated in different parts of the Cherokee country.

It was estimated in 1735 that there were sixty-four towns and villages, "populous and full of women and children,"[12] with about sixteen or seventeen thousand souls all told, over six thousand of whom were warriors. Each village had its council house and its outlying fields of maize, beans, and squashes, the common property of the community. The head man of the village, together with certain warriors distinguished for prowess, not only managed local affairs, but represented the village at the General Council of the Nation, usually held[13] at Chota[14] on the Tellico River. A certain loose tribal unity was maintained by a principal chief and by certain laws or regulations by which every member of the tribe was bound.

To summarize, the Cherokees, by virtue of their location, had developed an artistic temperament, certain physical and mental characteristics and a form of religious belief in keeping with and influenced by their surroundings. Because of this intimate relation, their attachment to their country was exceedingly strong, a fact important in the explanation of their later actions, but often either overlooked or disregarded by the ever-encroaching whites.

Contact of the Cherokees with Europeans dates back to the middle of the sixteenth century when the daring and adventurous De Soto, marching northward from Tampa Bay and passing over "rough and high hills," arrived in the land of the Cheraqui. The Spaniards described the Indians as a naked, lean, and unwarlike people given to hospitality to strangers. To the travellers they presented baskets of berries and presents of corn, wild turkeys, and other species of small animals, according to the Gentleman of Elvas.[15]

From time to time the Cherokees met Spanish explorers and English and French settlers, from whom they gradually adopted such civilized arts as appealed to them. That they so long remained conservative to European ideas and appeared to disdain anything alien was due to the fact that there was so little in civilization that appealed to people in the primitive stage, and not to their lack of intellectual vigor. Their own tools and implements were so admirably suited to their purposes that they did not feel the need of better ones. Firearms proved an exception. The Indian learned their use readily, for by them he was enabled to supply the growing demand for furs, the chief article of trade with Europeans, and to hold his own with his enemies. By 1715, about twelve hundred Cherokee warriors were supplied with guns, and a few years later the governor of South Carolina furnished two hundred more with guns and ammunition on condition that they would help him in a war upon a neighboring tribe.[16]

Before the end of the seventeenth century, Virginia and South Carolina traders began dealing with the Cherokees. In 1690, Cornelius Daugherty, a Virginia Irishman, established himself among the tribe, with whom he spent the remainder of his life. He was followed by other traders, some of whom were not on the very best terms with the aborigines, due chiefly to their custom of purchasing or capturing Indians to be sold in the settlements or to the West Indies, and to their general conduct toward the natives, which was described as sometimes "very abuseful."[17] Complaints of these abuses coming from the Cherokees to Governor Nicholson, coupled with the jealousy of French encroachments upon English trade with the Indians, caused him to arrange for a conference of chiefs to be held at Charleston in 1721. A treaty establishing a boundary between the Cherokees and the settlement was agreed upon; a chief was designated as the head of the nation to represent it in all dealings with the Colonial Government; a commissioner was appointed to superintend the relation of the colony with the Cherokees; and a small cession of land was made,[18] the first in the long list that was to follow.

Nine years later we find North Carolina commissioning Sir Alexander Cummings to arrange a treaty of alliance with the tribe. After a preliminary meeting with the chiefs on the Hiwassee in the Cherokee county, he conveyed a committee of six to them, bearing the crown of the nation, to England, where after a visit of several weeks they signed the Treaty of Dover. The treaty provided that the Cherokees trade with no other country than England and that none but Englishmen be allowed to build forts or cabins or plant corn among them.[19] In return for these concessions, the chiefs carried home a generous supply of paint, a few pounds of beads, and some other equally worthless articles. Flattered by the courteous treatment which they received in England, they did not at first realize the disproportionateness of the bargain.

These two treaties were but the beginning of land cessions by which, year after year, from this time on, under one pretext or another, the aborigines were shorn of their ancestoral domains and found themselves powerless to prevent it.

In 1775, a treaty and purchase of land were again negotiated by South Carolina.[20] In 1756, North Carolina commissioned Hugh Waddel to conclude a treaty of alliance and cession, which was followed up the same year by Governor Glen's chain of military forts, Fort Prince George erected on the Savannah, Fort Monroe 170 miles farther down the river, and Fort Loudon on the Tennessee at the mouth of the Tellico.[21] In 1777, Cherokee hostilities were put down with a heavy hand by the combined forces from Virginia, North Carolina, and South Carolina, and most of their principal towns on the Tennessee were destroyed.[22] A cession[23] of land was wrung from the Indians which proved so distasteful to the Chicamauga band that they refused to assent to it. Moving westward, they settled the "Five Lower Towns" on the Tennessee, among which was Lookout Mountain. With various other treaties, these bring us to the end of the official relations of the Cherokees with Colonial Government, so far as concerns land cession, and to the War of Independence and the formation of the Confederation.

The mother country and her colonies, by failing at the outset to adopt a definite systematic policy of justice and humanity towards the Indians, established the precedent for all subsequent dealings with them. Charters and patents granted by England to the colonies neglected to give due consideration to the prior claims of the aboriginal tribes. The colonies left their course with the Indians to be directed by circumstances. Agents and commissioners were given a free hand in securing land cessions and arranging treaties. Bribes were used without scruple and chiefs and headmen corrupted by every available means. That any advantage which might be taken of the ignorance and misunderstanding of natives unfamiliar with the English language was considered legitimate is evident to anyone familiar with the history of

Indian treaties. Neither government nor individuals considered it dishonest to cheat an Indian, criminal to rob him, nor murder to kill him. Any attempt to protect him or to teach him the way of salvation was scarcely deemed meritorious. That amicable relations existed at all between the Indians and the English was due to two causes: first, the few exceptional white men who looked upon the savage as entitled to the same justice and humanity as that to which the white man is entitled; and second, the increasing proximity of Spaniards in Florida and the French in the Mississippi Valley and on the Gulf Coast, bidding for Indian trade. These the English watched with jealous eye, dreading not only the loss of profitable trade, but the hostility of the natives, who could become formidale enemies at the very back doors of the settlements.

This fear caused the colonists to adopt a conciliatory policy toward the Cherokees, who, responding to their advances, formed an alliance with them against the French. In the attack upon Fort Duquesne, a band of Cherokee warriors rendered valuable service to the English. The contemptuous attitude of British and colonial officers, the severe military restraint placed upon them, suspicion of their fidelity, together with various reasons, caused them to become dissatisfied and return home. Having lost their horses in an encounter with the French and being fatigued by the long journey, they supplied themselves with mounts from a herd which they found running at large in the frontier. The inhabitants of Virginia, horrified at this act of horse stealing, attacked the warriors on their way home through the settlements and killed forty of them. An act of treachery on the part of a settler who invited a party of Cherokees to his house in order that they might be surrounded and shot down as they left his hospitable roof completed the estrangement. Ata-Kulla-Kulla, a prominent chief, calling a council of war, declared that, after they should have safely conducted back to the settlements some Englishmen who were among them for the purpose of arranging a treaty, "the hatchet shall never be buried until the blood of our people shall be avenged." "But let us not violate our faith", said he, "by shedding the blood of those who have come among us in confidence bearing belts of wampum to cement a perpetual friendship. Let us carry them back to the settlements and then take up the hatchet and endeavor to exterminate the whole race of them."[24] In the bloody war which followed, villages were burned, orchards and maize fields destroyed, women and children murdered, many warriors slain, and the remaining inhabitants forced to take refuge in the caves of the mountains until peace was restored by the humiliating treaty of 1760.

The tribe had not fully recovered from the effects of this struggle when they were confronted with the War of Independence. Smarting under their recent defeat and resenting the steady encroachment of colonists upon their hunting grounds, they promptly ranged themselves on the side of the British and placed their warriors at the service of King George. In the border warfare which followed, Indians and whites vied with each other in the atrocity of their deeds. The Cherokees, finally completely defeated, were forced to sue for peace in 1785. By the terms of the Treaty of Hopewell which followed, Congress was to pass laws regulating trade with them; the Cherokees were allowed to send a delegate to Congress, and no whites were to be suffered to settle upon Cherokee lands.[25] This treaty was unsatisfactory to Indians and whites alike. The latter paid scant attention to the article forbidding them to settle on Indian lands; the natives refused to submit to the encroachment of the settlers and kept them terrified by sudden raids and bloody massacres. The whites retaliated in kind and this condition of affairs kept up until stopped by intervention of the Federal Government in 1790.

As early as 1789, General Knox, Secretary of War, called the attention of President Washington to the disgraceful violation of the Treaty of Hopewell and recommended the appointment of a commission to look into the matter and, if need be, negotiate a more effective treaty.[26] In august of the next year, the Senate passed a resolution providing for such a commission and the result was the Treaty of Holston, which, in addition to settling the boundary question, gave the Federal Government the exclusive right to trade with the Cherokee Nation and to act as interpreters.[27]

An Indian agent who was sent to see that the policy of the treaty was carried out established headquarters on the Hiwassee River near where it empties into the Tennessee and from this point settled disputes between the whites and Cherokees, enforced intercourse laws, apportioned annuities, and distributed plows, hoes, spinning wheels, cards, and looms among the Indians, and instructed them in their use. Colonel Silas Dinsmore,[28] who was agent from 1796 to 1799, devoted his energies to the raising of cotton, to which some sections of the nation were excellently suited. Major Lewis succeeded him and was succeeded in turn by R. J. Meigs, an old Revolutionary soldier who had marched to Quebec with Arnold. For twenty-two years he served as Indian agent, rendering efficient and intelligent service and acquiring a knowledge of the character and needs of the Cherokees which made him an authority in their affairs[29] as long as he lived.

This new policy of the Federal Government gave encouragement, impetus, and direction to the progressive spirit already abroad in the nation. Notwithstanding the half century of intermittent warfare, the Cherokees had made considerable advancement before the Treaty of Holston. Adair states that horses had been introduced among them early in the eighteenth century and that by 1760 they had a prodigious number of them and that they were of excellent quality. The same may be said of cattle, hogs, and poultry. Sevier on his expedition against the Coosatowns in 1793 allowed his army to kill three head of cattle at Etoway and leave their carcasses rotting on the ground.[30] Benjamin Hawkins, while travelling through the Cherokee Nation three years later, met two Indian women driving ten fat cattle to the settlements to sell.[31] Indian pork was highly esteemed by the colonists; "At the fall of the leaf," says Adair, "the woods are full of hickory nuts, acorns, chestnuts and the like, which occasions the Indian Bacon to be more streaked, firm and better tasted than any we met with in the English settlement."[32] Baskets were made by the women, and pottery of simple though pleasing design was moulded from clay and glazed by holding it in the smoke of corn meal bran;[33] hunting was a lucrative occupation of the men until the end of the nineteenth century, a party of traders taking home at one trip thirty wagon loads of furs.

By their geographic position and superior numbers, the Cherokees might have held the balance of power in the South had it not been for the looseness of their tribal organization. The first attempt to weld the whole nation into a political unit was in 1736 when Christian Priber, a French Jesuit, went to live among them and, by promptly adapting himself to their language and dress, won their confidence to such an extent that he was able to induce them to adopt a scheme of government which he drew up, modeled on the French monarchy, with the chief medicine man as emperor, himself as secretary of state, and Great Tellico as the national capital.[34] But when Priber was arrested by the authorities of North Carolina on the accusation of being a secret emissary of the French, this scheme gradually went to pieces. It was seventy-two years later that they reorganized their government and adopted their first code of written laws. In 1808 the Council provided for the organization of regulating parties to maintain order in the nation, named the penalty for horse stealing, and declared that fatherless children should inherit the father's property in case the morther married again.[35] It had been the custom among the Cherokees, time out of mind, to transmit from father to son the memory of the loss by violence of relatives or members of the clan. With the memory also was transmitted the obligation to revenge the loss. "Who sheddeth man's blood, by the clansmen of the deceased shall his blood be shed," was considered good savage ethics; but the Cherokee Nation emerging from barbarism had outgrown this ancient custom, and in 1810 an act of oblivion for all past murder was passed by unanimous consent of the seven clans in council at Oostinaleh;[36] punishment was taken from the clan and placed in the hands of the General Council.

With the exception of the work done by Priber and the Federal Government, no outside aid had been given the Cherokees, and no effort was made to civilize or Christianize them before the end of the eighteenth century. A writer of the times declares that, "to the shame of the Christian name no pains have ever been taken to convert them to Christianity."[37] On the other hand, their morals were perverted by contact with some of the worst vices of the white man: chief of these was intoxicating liquors, which wrought sad havoc with the tribe, corrupting morals and government until strict laws were passed by the Council prohibiting its importation under a penalty of forfeiture for natives and forfeiture and a fine of $100 for outsiders. Indeed, it has proven a curse and a blight to Indians even down to the present generation.

The first mission in the Cherokee Nation was established in 1801 by the Moravians and grew out of a desire on the part of the Cherokees to educate their children, rather than eagerness to embrace a new religion. This peaceful sect of German Christians had established a settlement on the Upper Yadkin about 1752. During the Indian Wars, Cherokee chief who had been hospitably received by them expressed a desire that teachers be sent to their people, and the evangelizing of that tribe had never been lost sight of by the Brethren.[38] In 1799 two missionaries from this place visited the Cherokees to investigate the question. As a result, the next year a council was held at Tellico Agency; after much discussion, in which considerable oppostion was expressed, permission was granted the missionaries to start a school. The Reverand Abraham Steiner and Gottlieb Byham began to hold religious services in the home of David Vann, a mixed-blood Cherokee of progressive ideas, but on account of various difficulties, the school was not started promptly.

At the Great Council held at Oostinaleh a few miles distant, it was declared that the Cherokee Nation wanted educators, not theologians, and unless the missionaries could open a school within six months, they should leave the Nation. With the encouragement of Agent Meigs and the assistance of Vann and Charles Hicks, the school was finally built, Van donating a part of his farm as a location, lodging the missionaries while the mission was building, and lending substantial aid in the construction of the house. The school was opened in due time, and the children of some prominent chiefs soon enrolled as students. In 1805, Reverend and Mrs. John Gambold took charge at Spring Place, where they remained until her death fifteen years later.

In 1804, the Presbyterians followed the Moravians and established a school at Maryville, Tennessee, with the Reverend Gideon Blackburn at its head, while the American Board of Foreign Mission established in 1817[39] the famous Baptist School at Brainard Mission from which Missionary Ridge took its name. A great religious revival swept the country beginning about 1818,[40] but up to this time there were remarkably few conversions to the Christian religion, those of Catherine Brown, the first Cherokee convert, Margaret Vann, wife of David Vann, and Charles Hicks, later to become for a short time Principal Chief of the Nation, being the most notable.

The missionaries worked side by side with their pupils, their instruction being thus practical as well as theoretical and industrial as well as religious. They in this way gained a very strong hold upon the natives, and their influence among them for good is not easily estimated. To them is due in large part the splendid school system which the Cherokees were able to build up and maintain in after years.

Intermarriage of the Cherokees with Europeans dates back to early colonial times. Until the end of the eighteenth century it was confined chiefly to white men, but after that time several white women married into the tribe. The intermarried white men were usually traders or officers and soldiers of the frontier forts, with a few men from the back settlements, and were of good English, Scotch, Irish, or Huguenot stock, The Dougherties, Vanns, Rogers, Gunters, Wards, and McDonalds are among their descendants. By the beginning of the nineteenth century, the mixed population with civilized ideas was one of the dominant political forces among the Cherokees which made itself felt in the reorganization of the government from 1808 to 1827.

The opening of highways in the Indian country was another tremendous influence for civilization, though, like most other innovations of the white man, they were bitterly resented by the conservative Indians. But by 1816, however, treaties had been arranged[41] permitting the opening of all roads necessary for intercourse between Tennessee, Georgia, and the territory lying directly west of them for the convenience of travellers. For the same purpose general stores and public houses of entertainment were built at intervals along these roads, which proved a source of considerable income to the owners, who were natives of the nation. The opening of highways through this country brought the whole nation more closely in touch with the outside world, and by stimulating trade and encouraging the accumulation of property, prepared the way for further developments.[42]

Negro slavery also had its part in the history of the development of the Cherokees. The first of the slaves were runaway Negroes from the Virginia and Carolina settlements whom the Indians appropriated to their own use in cultivating their fields.[43] They proved so profitable that others were bought from the settlers from time to time, and slavery gradually became a settled institution of the tribe. In their relations with their slaves, it is to the credit of the Cherokees that their treatment of them was so humane that slaves preferred living in the nation to residence in the United States; and that there was rarely ever an intermixture of Cherokee and African blood.[44] By their help, farming--especially the raising of cotton-developed more rapidly than it would have done under native labor, and more leisure and opportunity for culture were given both to men and women.

The beginning of the westward emigration among the Cherokees is shrouded in legend and tradition. The story of the Lost Cherokees indicated that a part of the tribe migrated beyond the Father of Waters at a very early time. It is probable that bands of hunters visited the western prairies at intervals before the discovery of America by Europeans. Wars with the settlers, discontent over land cessions, and intrusion of whites upon their domains led small bands to migrate into Spanish territory, where a settlement was made on the St. Francis River in Arkansas;[46] later they were removed to a tract of land between the Arkansas and the White Rivers and in 1803 came under the control of the Federal Government.

Jefferson, in order to validate the Louisiana Purchase and justify himself in the eyes of his strict-construction constituents, thinking he saw light in the direction of Indian removal, drew up a rough draft of a Constitutional amendment which had for its central idea the removal of all the Indian tribes to the newly acquired territory.[47] On his recommendation, an appropriation of $15,000 was made by Congress as the preliminary step towards bringing about this result.[48] When, in 1808, a delegation of Cherokees was about to visit Washington to ask for an adjustment of their differences and a more equitable distribution of annuities, the

Secretary of War wrote Agent Meigs to embrace every occasion for sounding the chiefs on the subject of the removal of the whole tribe.[49]

A considerable difference existed at this time between the Upper and Lower Cherokees; the former where chiefly farmers, while the latter--still hunters--were beginning to feel themselves hedged in by the narrowing boundaries of their hunting grounds. Differences of opinion growing out of these differences in occupations led to discontent. In May, 1808, a delegation of Upper Cherokees arrived in Washington requesting that a line be drawn between their lands and those of the Lower Cherokees, that their lands be allotted them in severalty, and that they be admitted as citizens of the United States, while their brethren in the South might hunt as long as the game lasted. In his talk with them, Jefferson encouraged removal, but informed that citizenship could not be conferred upon them except by Congress.[50]

The next year or two the idea of removal seems to have gained favor with both Upper and Lower Cherokees. An appropriation having been made for the purpose, a delegation was sent out to investigate the Arkansas country and returned with such favorable reports a large number were prepared to move at once. Jefferson went out of office, however, before anything could be accomplished, and Mr. Madison was not in favor of removal on a large scale. Although by 1817 between 2,000 and 3,000[51] had emigrated, the emigration was not officially countenanced either by the United States or their own nation.[52] Other delegations went to Arkansas in 1818 and 1819 and still later, even to within a short time before the New Echota Treaty of 1835. These Cherokees constituted what were later called Old Settlers. In this way there came to be a Cherokee Nation East and a Cherokee Nation West.

FOOTNOTES

1. This probably originated in the belief that at the Creation the Great Spirit gave the tribe a sacred fire which was to be kept perpetually burning.
2. Mooney, "Myths of the Cherokees." 19th Report of Bureau of Ethnology, Vol. I, p. 15.
3. Bancroft, "History of the United States", Vol. II, p. 95
4. American State Papers, Vol. II, p. 651
5. Bartram, "Travels Through North and South Carolina and Georgia, etc.", pp. 366-368 (1792)
6. Ibid.
7. John Ridge to Albert Gallatin, 1826. Payne Mss. 8.
8. John Ridge to Albert Gallatin. Payne Mss. 8.
9. Adair, J., "History of the American Indians," pp. 224-226
10. Ibid, p. 226
11. Each village having its own peculiar dialect
12. Adair, p. 227
13. Before 1785
14. The ancient peace town or "City of Refuge"
15. "The Gentleman of Elvas". Publication of the Hakluyt Society. Vol. IX, pp. 52, 58, 64.
16. Haywood, "Natural and Aboriginal Tennessee", p. 227. Firearms were first introduced among them in 1700.

FOOTNOTES
(Continued)

17. Hewat, A., "Historical Account of the Rise and Progress of the Colonies of South Carolina and Georgia", Vol. I, pp. 297. 298

18. Ibid; Royce, "Cherokee Nation". 5th Report of Bureau of Ethnology, p. 144

19. Hewat, A., "Historical Account of the Rise and Progress of the Colonies of South Carolina and Georgia", Vol. II, pp. 3, 9, 11. The crown of the nation consisted of five eagle tails and four scalps. It is otherwise known as the "War Bonnet".

20. Ibid.

21. Martin, "North Carolina", Vol. II, p. 87

22. American State Papers, Indian Affairs, Vol. I, p. 431.

23. "At Dewitt's Corners"; Haywood's "History of Tennessee", p. 451

24. McKenny and Hall, "History oc the Indian Tribes of North America", Vol. III, p. 343 (1855)

25. American State Papers, Indian Affairs, Vol. I, p. 953

26. Ibid, p. 52

27. "Seven U.S. Statutes at Large", p. 62; Cong. Doc. 531, No. 28, p. 148

28. Payne Mss. 8, Ridge ot Gallatin, 1826; also Payne Mss. 5,

FOOTNOTES
(Continued)

extract from Journals of the Moravians.

29. Royce, "Cherokee Nation", p. 231

30. Mooney, "Myths of the Cherokees", p. 82

31. Ibid.

32. Adair, p. 230

33. Payne, Mss. 6, p. 61

34. Adair, pp. 240, 243

35. American State Papers, Indian Affairs, Vol. II, p. 282

36. Ibid, p. 283

37. Mooney, "Myths of the Cherokees", p. 38; Carroll's "Historical Collection of South Carolina", Vol. II, pp. 97-98, 517 (1836)

38. Thompson, A. C., "Moravian Missions", p. 341; American State Papers, Indian Affairs, Vol. I, p. 282

39. Gude, Mary B., "Georgia and the Cherokees", p. 24

40. Ibid, p. 23

41. Cong. Doc. 531, No. 28, p. 148; American State Papers, Indian Affairs, Vol. I, p. 649; Royce, "Cherokee Nations of Indians", p. 187; American State Papers, Vol. I, p. 698; "Three U.S. Statutes at Large", p. 139

42. Morse, "Indian Reports", Hicks to Calhoun, 1822

FOOTNOTES
(Continued)

43. McKenney and Hall, "Indian Tribes of North America", Vol. III, p. 331

44. American State Papers, Indian Affairs, Vol. II, p. 651. Letter of David Brown

45. Ibid.

46. Payne Mss. 2, p. 71

47. Abel, "Indian Consolidation", Chap. 1

48. Royce, "Cherokee Nation of Indians", pp. 202, 203

49. Indian Office Manuscript Records, Secretary Dearborn to Agent Meigs, March 25, 1808.

50. Jefferson's "Works", Library Edition, Vol. XVI, pp. 432-435

51. Royce, p. 204

52. American State Papers, Indian Affairs, Vol. II, pp. 97, 125

APPENDIX A

PARTIAL LIST of VASCULAR PLANTS
of the
CHEROKEE INDIAN RESERVATION

Partial List of Vascular Plants
# of the
Cherokee Indian Reservation

1. *Acalypha virginica* L. (Three-seeded mercury)
2. *Acer pensylvanicum* L. (Striped maple)
3. *A. rubrum* L. (Red maple)
4. *A. saccharum* Marshall (Sugar maple)
5. *A. spicatum* Lamarch (Mountain maple)
6. *Achillea millefolium* L. (Yarrow)
7. *Actaea pachypoda* Elliott (White baneberry)
8. *Adiantum pedatum* L. (Maidenhari fern)
9. *Aesculus octandra* Marshall (Yellow buckeye)
10. *Agalinis purpurea* L. Pennell (Gerardia)
11. *Agrimonia rostellata* Wallroth (Agrimony)
12. *Agrostis perennans* (Walter) Tuckerman (Bent grass)
13. *A. stolonifera* L. (Redtop)
14. *Allium tricoccum* Aiton (Ramps)
15. *Aletris farinosa* L. (Stargrass)
16. *Alnus serrulata* (Aiton) Willd. (Smooth alder)
17. *Amelanchier arborea* (Michaux f.) Fernald (Serviceberry)
18. *Amphicarpa bracteats* L. Fernald (Hog peanut)
19. *Andropogon gerardii* Vitman (Bluestem, Turkeyfoot)
20. *A. scoparius* Michaux (Little bluestem)
21. *Anemone quinquefolia* L. (Windflower)
22. *Angelica venenosa* (Greenway) Fernald (Angelica)
23. *Antennaria plantaginifolia* L. Richardson (Pussytoes)
24. *A. solitaria* Rydberg (Pussytoes)
25. *Aquilegia canadensis* L. (Columbine)
26. *Aralia racemosa* L.(Spikenard)
27. *A. spinosa* L. (Devil's walkingstick)
28. *Arisaema triphyllum* L. Schott (Indian turnip, Jack-in-the-pulpit)
29. *Aristolochia macrophylla* Lamarch (Dutchman's pipe)
30. *Aruncus dioicus* (Walt.) Fernald (Goat's beard)
31. *Asarum canadensis* L. (Wild ginger)
32. *Asclepias exaltata* L. (Poke milkweed)
33. *A. variegata* L. (Milkweed)
34. *Asimina triloba* L. Dunal (Pawpaw)
35. *Asplenium platyneuron* L. Oakes (Ebony spleenwort)
36. *A. rhizophyllum* L. (Walking fern)
37. *A. trichomanes* (L) Oaks (Maidenhari spleenwort)
38. *Aster divaricatus* var. *chlorolepis* (Burgess) Ahles (Aster)
39. *A. divaricatus* (L) var. *divaricatus* (Aster)

40. *A. lateriflorus* (L) Britton (Starved aster)
41. *A. patens* Aiton (Aster)
42. *A. paternus* (L) (Aster)
43. *A. puniceus* (L) (Aster)
44. *A.* sp. (Aster)
45. *Athyrium thelypterioides* (Michaux)Desvaux (Silvery spleenwort)
46. *Aureolaris virginica* (L) pennell (Foxglove)
47. *Baptisia* sp. (Wild Indigo)
48. *B. ticntoria* (L) R. Brown (Baptisia)
49. *Betula lenta* (L) (Sweet birch, Cherry-bark birch)
50. *B. lutea* michaux (Yellow birch)
51. *Bidens frondosa* (L) (Beggar ticks)
52. *Botrychium virginianum* (L) Swartz (Rattlesnake fern)
53. *B. oneidense* (Gilbert) House (Grape fern)
54. *Brachyelytrum erectum* (Schreber) Beauvois (Grass)
55. *Cacalia atriplicifolia* (L) (Indian plantain)
56. *Calycanthus floridus* (L)L var. *laevigatus* (Willd) T. &.G. (Sweet shrub, Bubee)
57. *Campanula divaricata* Michaux (Southern harebell)
58. *Cardamine diphylla* (Michx.) Wood (Toothwort, Branch mustard)
59. *Carex folliculata* var. *folliculata* L. (Carex)
60. *C. incomperta* Bicknell (Sedge)
61. *C. laxiflora* Lam. (Sedge)
62. *C. lurida* Wahlenberg (Carex)
63. *C. normalis* Mackenzie (Carex)
64. *C. pensylvanica* var. *pensylvanica* Lam. (Carex)
65. *C. plantaginea* Lam. (Sedge)
66. *C. rosa* Schkuhr. (Carex)
67. *C.* sp. (Sedge)
68. *C. swanii* (Fernald) Mackenzie (Carex)
69. *Carpinus caroliniana* Walter (Ironwood, American hornbeam)
70. *Carya glabra* (Miller) Sweet (Pignut hickory)
71. *C.* sp (Hickory)
72. *C. tomentosa* (Poiret) Nuttal (Mockernut hickory)
73. *Cassia fasciculata* Michaux (Partridge pea)
74. *Castanea dentata* (Marshall) Borkh. (American chestnut)
75. *Caulophyllum thalictroides* (L) Michaux (Blue cohosh)
76. *Ceanothus americanus* (L) (New Jersey tea)
77. *Cimicifuga americana* Michaux (Black cohosh)
78. *Chelone glabra* L. (Turtlehead)
79. *Chimaphila maculata* (L) Pursh (Pipsissewa)
80. *Chrysanthemum leucanthemum* (L) (Ox-eye daisy)
81. *Chrysopsis graminifolia* (Michaux) Shinners
82. *C. marinana* (L) Shinners
83. *Claytonia carolinana* Michaux (Spring beauty)
84. *Clematis virginiana* (L) (Virgin's bower)
85. *Clethra acuminata* Michaux (Sweet pepperbush)

86. *Clintonia borealis* (Aiton) Raf. (Clinton's lily)
87. *C. umbellulata* (Michx) Morong (Speckled wood-lily)
88. *Collinsonia canadensis* (L) (Collinsonia)
89. *Conopholis americana* (L) Wallroth (Cancer root)
90. *Coreopsis major* var. *stellata* (Nuttall) Robinson (Coreopsis)
91. *Cornus alternifolia* (L) (Alternate leaved dogwood)
92. *Coronilla varia* (L) (Crown vetch)
93. *Crataegus flabellata* (Bosc.) K. Koch (Hawthorne)
94. *Crataegus* sp. (Hawthorne)
95. *Cuscuta campestris* Yuncker (Field doddler)
96. *Cymophyllus fraseri* (Andrz) Machenzie (Lily leaved sedge)
97. *Cyperus retrofractus* (L) Torrey (Sedge)
98. *Cypripedium acaule* Aiton (Pink lady slipper)
99. *C. calceolus* (Willd.) Correll (Yellow lady slipper)
100. *Dactylis glomerata* (L) (Orchard grass)
101. *Danthonia compressa* Austin (Oat grass)
102. *Delphinium tricorne* Michaux (Larkspur)
103. *Dennstaedtia punctilobula* (Michaux) Moore (Hay-scented fern)
104. *Dianthus armeria* (L) (Pink)
105. *Dicentra canadensis* (Goldie) Walpers (Squirrel corn)
106. *Dicentra cucularia* (L) Bernh. (Dutchman's breeches)
107. *Digitaria sanguinalis* (L) Scopoli (Crab grass)
108. *Diodia virginiana* (L) (Diodia)
109. *Dioscorea villosa* (L) (Wild yam)
110. *Diphylleia cymosa* Michaux (Umbrella-leaf)
111. *Disporum languinosum* (Michaux) Nicholson (Yellow mandarin)
112. *Dryopteris campyloptera* Clarkson (Mountain woodfern)
113. *D. intermedia*, (L) Gray (Fancy fern)
114. *D. goldiana* (Hooker) Gray (Goldie's woodfern)
115. *D. marginalis* (L) Gray(Marginal shield fern)
116. *Eleocharis obtusa* (Willd) Schultes (Spike rush)
117. *Epifagus virginiana* (L) Barton (Beech drops)
118. *Epigaea repens* (L) (Trailing arbutus)
119. *Erechtites hieracifolia* (L) Raf. (Fireweed)
120. *Erigeron pulchellus* Michaux (Robin's plantain)
121. *E. strigosus* Muhl. ex. Willd. (Daisy fleabane)
122. *Erythronium americanum* Ker. (Trout lily)
123. *Euonymous americanus* (L) (Hearts-a-busting)
124. *E. obovatus* Nuttall (Hearts-a-busting)
125. *Eupatorium album* (L) (Joe Pye weed)
126. *E. fistulosum* Barratt (Joe Pye weed)
127. *E. rugosum Houttuyn* (Joe Pye weed)
128. *Fagopyrum esculentum* Moench (Buckwheat)
129. *Fagus grandifolia* (L) (American beech)
130. *Festuca obtusa* Biehler (Fescue)
131. *Fragraria virginiana* Duchesne (Strawberry)
132. *Galax aphylla* (L) (Galax)

133. *Gaultheria procumbens* (L) (Wintergreen)
134. *Gentiana quinquefolia* (L) (Ague-weed)
135. *G. saponaria* (L) (Gentian)
136. *Geranium maculatum* (L) (Wild geranium)
137. *Gillenia trifoliata* (L) Moench (Indian physic)
138. *Gnaphalium helleri* Britton (Cudweed)
139. *G. obtusifolium* (L) (Rabbit tobacco)
140. *Goodyera pubescens* (Willd.) R. Brown (Rattlesnake plantain)
141. *G. repens* var. *ophioides* Fernald (Lesser rattlesnake plantain)
142. *Habenaria ciliaris* (L) R. Brown (Yellow fringed orchid)
143. *H. psycodes* (L) Sprengel var. *psycodes* (Purple fringed orchid)
144. *Halesia carolina* (L) (Carolina silverbell)
145. *Hamamelis virginiana* (L) (Witch-hazel)
146. *Helianthus laetiflorus* Persoon (Sunflower)
147. *Heuchera villosa* Michauz (Alumroot)
148. *Hieracium* sp. (Hawkweed)
149. *Holcus lanatus* (L) (Velvet grass)
150.. *Houstonia caerulea* (L) (bluets)
151. *H. purpurea* (L) (Bluets)
152. *Hydrangea arborescens* L. var. *arborescens* (Wild hydrangea)
153. *Hydrophyllum canadense* L. (Waterleaf)
154. *Hypericum mutilum* L. (St. John's wort)
155. *H. punctatum* Lam. (St/ John's wort)
156. *H. strangalum* P. Adams and Robson (St. John's wort)
157. *Hypoxis hirsuta* (L) Coville (Yellow star grass)
158. *Ilex ambigua* var. *montana* (T. & G.) Ahles (Mountain holly)
159. *I. opaca* Aiton (American holly)
160. *Impatiens capensis* Meerburgh (Spotted jewel weed)
161. *I. pallida* Nuttall (Yellow jewel weed)
162. *Iris cristata* Aiton (Crested dwarf iris)
163. *Juglans nigra* L. (Walnut)
164. *Juncus effusus* L. (Rush)
165. *J. gymnocarpus* Coville (Rush)
166. *J. tenuis* Willd. (Path rush)
167. *Kalmia latifolia* L. (Mountain laurel)
168. *Krigia montana* (Michx.) Nuttall (Dwarf dandelion)
169. *Laportea canadensis* (L) Weddell (Wood nettle)
170. *Lespedeza bicolor* Turcz. (Lespedeza)
171. *L. hirta* (L) Horneman (Lespedeza)
172. *L.* sp. (Lespedeza)
173. *L. virginica* (L) Britton (Lespedeza)
174. *Lilium michauxii* Poiret (Carolina lily)
175. *L. superbum* L. (Turk's cap lily)
176. *Liparis lilifolia* (L) L. C. Richard (Lily-leaved twayblade)
177. *Liliodendron tulipifera* L. (Yellow poplar)
178. *Listera smallii* (L) Ell. (Ludwigia)
179. *Lobelia inflata* L. (Indian tobacco)

180. *L. puberula* Michaux (Lobelia)
181. *Lolium multiflorum* Lam. (Rye grass)
182. *Ludwigia alternifolia* L. (Ludwigia)
183. *L. palustris* (L) Ell. (Ludwigia)
184. *Luzula acuminata* Raf. (Woodrush)
185. *L. echinata* (Small) Hermann (Luzula)
186. *Lycopodium lucidulum* Michaux (Shining club moss)
187. *Lyonia ligustrina* (L) DC. (Male-berry)
188. *Lysimachia ciliata* L. (Fringed loosestrife)
189. *L. quadrifolia* L. (Whorled loosestrife)
190. *Magnolia acuminata* L. (Cucumber tree)
191. *M. fraseri* Walter (Fraser's magnolia)
192. *M. tripetala* L. (Umbrella tree)
193. *Maianthemum capadense* Desf. (False lily-of-the-valley)
194. *Malaxis unifolia* Michaux (Green adder's mouth)
195. *Medeola virginiana* L. (Indian cucumber root)
196. *Melampyrum lineare* Desr. (Melampyrum)
197. *Melilotus alba* Desr. (White sweet clover)
198. *Mimulus ringens* L. (Monkey flower)
199. *Mitchella repens* L. (Partridge berry)
200. *Mitella diphylla* L. (Bishop's cap)
201. *Monarda clinopodia* L. (Bee-balm)
202. *M. didyma* L. (Crimson bee-balm)
203. *Monotropa hypopithys* L. (Pinesap)
204. *M. uniflora* L. (Indian pipes)
205. *Nyssa sylvatica* Marshall (Black gum)
206. *Oenothera biennis* L. (Evening primrose)
207. *Orchis spectabilis* L. (Showy orchid)
208. *Osmunda cinnamomea* L. (Cinnamon fern)
209. *Oxalis acetosella* L. (Wood sorrel)
210. *O.* sp. (Sorrel)
211. *O. stricta* L. (Sourgrass)
212. *Oxydendrum arboreum* (L) DC. (Sourwood)
213. *Oxypolis rigidior* (L)
214. *Panax quiquefolium* L. (Ginseng)
215. *P. trifolium* L. (Dwarf ginseng)
216. *Panicum dichotomum* L. (Panicum)
217. *P. laxiflorum* Lam. (Grass)
218. *Pedicularis canadensis* L. (Lousewort)
219. *Peplis diandra* Nuttall ex. DC. (Water purslane)
220. *Phleum pratense* L. (Timothy grass)
221. *Phlox carolina* L. (Carolina phlox)
222. *Phytolacca americana* L. (Polk-weed)
223. *Pinus rigida* L. (Pitch pine)
224. *P. strobus* L. (White pine)
225. *Plantago lanceolata* L. (English plantain)
226. *P. major* L. (Plantain)

227. *Platanus occidentalis* L. (Sycamore)
228. *Poa autumnalis* Muhl. (Blue grass)
229. *Polygala curtissii* Gray (Polygala)
230. *Polygonatum biflorum* (Walt.) Elliott (Soloman's seal)
231. *Polygonum cespitosum* var. *longisetum* (DeBruyn) Steward (Knotweed)
232. *P. Scandens* L. (Knotweed)
233. *Polypodium virginianum* L. (Rock-cap fern)
234. *Polystichum acrostichoides* (Michaux) Schott (Christmas fern)
235. *Podophyllum peltatum* L. (May apple)
236. *Potentilla canadensis* L. (Five fingers)
237. *Prenanthes altissima* L. (Rattlesnake root)
238. *Prunella vulgaris* L. (Selfheal)
239. *Prunus pensylvanica* L. (Pin cherry)
240. *P. serotina* Ehrhart (Wild cherry)
241. *Pyrularia pubera* Michaux (Buffalo nuts)
242. *Quercus alba* L. (White oak)
243. *Q. coccinea* Muenchh (Scarlett oak)
244. *Q. prinus* L. (Chestnut oak)
245. *Q. rubra* var. *borealis* Michaux) Farwell (Northern red oak)
246. *Q. rubra* L. (Red oak)
247. *Q. stellata* Wang. (Post oak)
248. *Q. velutina* Lam. (Black oak)
249. *Ranunculus hispidus* Michx. (Buttercup)
250. *Rhododendron arborescens* (Pursh) Torrey (Smooth azalea)
251. *R. calendulaceum* (Michx) Torrey (Flame azalea)
252. *R. catawbiense* Michaux (Purple rhododendron)
253. *R. maximum* L. (White rhododendron, Rosebay rhododendron)
254. *Rhus copallina* L. (Dwarf sumac)
255. *Rhynchospora* sp. (Beak rush)
256. *Ribes cynosbati* L. (Dogberry)
257. *R. rotundifolium* Michaux (Gooseberry)
258. *R. allegheniensis* Porter (Blackberry)
259. *R. odoratus* L. (Purple flowering raspberry)
260. *Rudbeckia hirta* L. (Black eyed susan)
261. *R. laciniata* L. (Coneflower, Sochan)
262. *Rumex acetosella* L. (Sour grass)
263. *R. obtusifolius* L. (Dock)
264. *Salix sericea* Marshall (Silky willow)
265. *Sambucus pubens* Michaux (Elderberry)
266. *Sanguinaria canadensis* L. (Bloodroot)
267. *Sassafras albidum* (Nutt.) Nees (Sassafras)
268. *Saxifraga michauxii* Britton (Saxifrage)
269. *Scirpus polyphyllus* Vahl (Bulrush)
270. *Sedum ternatum* Michaux (Stonecrop)
271. *Senecio aureus* L. (ragwort)
272. *Silene stellata* (L) Aiton f. (Starry campion)
273. *Sisyrinchium angustifolium* Miller (Blue eyed grass)

274. *Smilacina racemosa* L. (False soloman's seal)
275. *Smilax glauca* Walter (Catbrier)
276. *S. herbacea* L. (Catbrier)
277. *Solidago arguta* Aiton (Goldenrod)
278. *S. bicolor* L. (Silver rod)
279. *S. caesia* L. (Goldenrod)
280. *S. curtisii* var. *curtisii* T. & G. (Goldenrod)
281. *S. erecta* Pursh (Goldenrod)
282. *S.* sp. (Goldenrod)
283. *Solanum americanum* Miller (Nightshade)
284. *Sorbus americana* Marshall (Mountain ash)
285. *Sorghastrum nutans* (L) Nash (Indian grass)
286. *Specularia perfoliata* L. (Venus looking glass)
287. *Spiranthes gracilis* (Bigelow) Beck (Slender ladies tresses)
288. *Spiranthes grayi* Ames (Little ladies tresses)
289. *Stachys latidens* Small (Stachys)
290. *Stellaria media* (L) Cyrillo (Chickweed)
291. *S. pubera* Michaux (Giant chickweed)
292. *Streptopus roseus* Michaux (Twisted stalk)
293. *Tephrosia virginiana* (L) Persoon (Goat's rue)
294. *Thalictrum revolutum* DC (Meadow rue)
295. *T. thalictrodes* (L) Boivin (Windflower)
296. *Thaspium barbinode* (Michaux) Nuttall (Meadow parsnip)
297. *Thelypteris hexagonoptera* (Michx.) Weatherby (Broad beech-fern)
298. *T. noveboracensis* (L) Nieuwland (New York fern)
299. *Thermopsis villosa* (Walt.) Fernald and Schubert (Thermposis)
300. *Tiarella cordifolia* L. (Foam flower)
301. *Tilia heterophylla* Vent. (Basswood)
302. *Tipularia discolor* (Pursh) Nuttall (Crane-fly orchid)
303. *Trautvetteria carolinensis* (Walter) Vail (Trautvetteria)
304. *Trifolium pratense* L. (Wild clover)
305. *Trifillium catesbaei* Ell. (Catesby's trillium)
306. *T. cuneatum* Rafinesque (Little sweet betsy)
307. *T. erectum* L. (Wake robin)
308. *T. erectum* var. (Harbison) Ahles, (Vasey's trillium)
309. *T. grandiflorium* (Michx.) Salisbury (Large flowered trillium)
310. *T. undulatum* Willd. (Painted trillium)
311. *T. viride* var. *luteum* Beck (Yellow trillium)
312. *Triphora trianthophora* (Swartz) Rydberg (Three-birds orchid)
313. *Urtica dioica* L. (Stinging nettle)
314. *Vaccinium corymbosum* L, (Highbush blueberry)
315. *V. erythrocarpum* Michaux (Bearberry)
316. *V. hirsutum* Buckley (Hairy blueberry)
317. *V. vacillans* Torr. (Blueberry)
318. *Veratrum parviflorum* Michaux (Hellebore)
319. *V. viride* Aiton (False hellebore)
320. *Viburnum acerfolium* L. (Maple leaved viburnum)

321. *V. alnifolium* Marshall (Hobblebush)
322. *V. cassinoides* L. (Canada violet)
323. *Viola blanda* Willd. (Sweet white violet)
324. *V. canadensis* L. (Canada violet)
325. *V. hastata* Michaux (Yellow violet)
326. *V. papilionaccea* Pursh (Violet)
327. *V. pedata* L. (Bird's foot violet)
328. *V. rotundifolium* Michaux (Round leaved violet)
329. *Vitis aestivalis* var. *aestivalis* Michaux (Grape)
330. *V.* sp. (Grape)
331. *Vittaria* sp. (Vittaria)
332. *Xanthorhiza simplicissima* Marshall (Yellowroot)

APPENDIX B

GLOSSARY OF CHEROKEE WORDS

GLOSSARY OF CHEROKEE WORDS

The Cherokee language has the continental vowel sounds a, e, i, and u, but lacks o, which is replaced by a deep a. The obsure or short u is frequently nasalized, but the nasal sound is seldom heard at the end of a word. The only labial is m, which occurs in probably not more than half a dozen words in the Upper and Middle dialects, and is entirely absent from the Lower dialect, in which w takes its place. The characteristic l of the Upper and Middle dialects becomes r in the Lower, but no dialect has both sounds of these letters, but g and d are medials, approximating the sounds of k and t respectively. A frequent double consonant is ts, commonly rendered ch by the old traders.

a	as in far
ă	as in what, or obscure as in showman,
à	as in law, all,
d	medial (semisonant), approximating t.
e	as in they
ĕ	as in net
g	medial (semisonant), approximating k
h	as in hat
i	as in pique
ĭ	as in pick
k	as in kick
l	as in lull
'l	surd l (sometimes written hl), nearly the Welsh ll.
m	as in man
n	as in not
r	takes place of l in Lower dialect
s	as in sin
t	as in top
u	as in rule
u	as in cut
ûñ	u nasalized
w	as in wit
y	as in you
'	a slight aspirate, sometimes indicating the omission of a vowel

A number of English words, with cross references, have been introduced into the glossary.

ada'lanun'sti - a staff or cane
adan'ta - soul
ada'wehi - a magician or supernatural being
ada'wehi'yu - a very great magician; intensive form of ada'wehi
a'gana - groundhog
A'gansta'ta - "groundhog-sausage", from a'gana, groundhog and tsista'u, "I am pounding it", understood to refer to pounding meat, etc., in a mortar, after having first crisped it before the fire. A war chief, noted in the Cherokee war of 1760, and prominent until about the close of the Revolution, known to the whites as Oconostota. Also the Cherokee name for Colonel Gideon Morgan of the war of 1812, for Washington Morgan, his sone, of the Civil war, and now for a full-blood upon the reservation, known to the whites as Morgan Calhoun.

A'gan-uni'tsi - "Ground-hog's mother", from a'gana and uni'tsi, their mother, plural of utsi', his mother (ets', agitsi', my mother). The Cherokee name of the Shawano captive, who, according to tradition, killed the great Uktena serpent and procured the Ulunsu'ti.

Agawe'la - "Old Woman", a formulistic name for corn or the spirit corn.

agayun'li - for agayunlige, old, ancient.

agida'ta - see eda'ta.

agidutu - see edu'tu.

Agi′li - "He is rising", possible a contraction of an old personal name. Agin'-agi′li, "Rising-fawn". Major George Lawrey, cousin of Sequoya, and assistant chief of the Cherokee Nation about 1840. Stanley incorrectly makes it "Keeth-la, or Dog" for gi′li'.

agin'si - see eni'si.

agi'si - female, applied usually to quadrupeds.

Agis'-e'gwa - "Great Female", possible "Great Doe". A being, probably an animal god invoked in the sacred formulas.

agitsi' - see etsi'.

Agista′ti'yi - "where they stayed up all night", from tsigitsun'tihu, "I stay up all night". A place in the Great Smoky range about the head of Noland creek in Swain County, N. C.

Aguaquiri - see Guaquili.

Ahalu'na - "Ambush", Ahalunun'yi, "Ambush place", or Uni'halu'na, "where they ambushed", from akalu'ga, "I am watching". Soco gap, at the head of Soco creek, on the line between Swain and Haywood counties, N. C. The name is also applied to the lookout station for deer hunters.

ahanu'lahi - "he is bearded", from ahanu'lahu, a beard.

Ahu'lude'gi - "He throws away the drum" (habitual), from ahu'li, drum, and akwade'gu, "I am throwing it away" (round object). The Cherokee name of John Jolly, a noted chief and adopted father of Samuel Houston, about 1800.

ahyeli'ski - a mocker or mimic.

akta' - eye; plural, dikta'.

akta'ti - a telescope or field glass. The name denotes something with which to examine or look into closely, from akta', eye.

akwandu'li - a song form for akwidu'li (-hu,) "I want it".

Akwan'ki - see Anakwan'ki.

Akwe´ti'yi - a location on Tuckasegee river, in Jackson county, North Carolina; meaning of the name is lost.

Alarka - see Yalagi.

aliga' - the red-horse fish (Moxostoma).

Alkini' - the last woman known to be of Natchez decent and peculiarity among the East Cherokee; died about 1890. The name has no apparent meaning.

ama' - water; in the Lower dialect, awa'; cf. a'ma salt.

amaye'hi - "dwelling in the water", from ama' (ama'yi, "in the water") and ehu', "I dwell", "I live".

Amaye´l-e'gwa - "Great island", from amaye lu, island (from ama', water, and aye li, "in the middle") and e'gwa, great. A former Cherokee settlement of Little Tennessee river, at Big island, a short distance below the mouth of Tellico, in Monroe county, Tenn. Timberlake writes it Mialaquo, while Bartram spells it Nilaque. Not to be confounded with Long-Island town below Chattanooga.

Amaye´li-gunahi'ta - "Long-islant", from amaye li, island and gunahi'ta, long. A former Cherokee settlement, known to the whites as Long-island town, at the Long-island in Tennessee river, on the Tennessee-Georgia line. It was one of the Chickamauga towns (see Tsikama'gi).

ama'yine'hi - "dwellers in the water", plural of amaye'hi.

Anada'duntaski - "roasters", i.e., cannibals; from gun'tasku', "I am putting it (round) into the fire to roast". The regular word for cannibals is Yun'wini'giski, q.v.

anagahun'unsku' - the green-corn dance; literally, "they are having a green-corn dance"; the popular name is not a translation of the Cherokee wordk, which has no reference either to corn or dancing.

Anakwan´ki - the Delaware Indians; singular Akwan'ki, a Cherokee attempt at Wapanaqki, "Easterners", the Algonquian name by which, in various corrupted forms, the Delawares are commonly known to the western tribes.

Anantooeah - see Ani'Nun'dawe'gi.

a´ne'tsa, or a'netsa'gi - the ball-play.

a´netsa'unski - a ball-player, literally "a lover of the ball-play".

ani' - a tribal and animate prefix.

ani'da'wehi - plural of ada'wehi.

a'niganti'ski - see dagan´tu.

Ani'Gatage'wi - one of the seven Cherokee clans. The name has now no meaning, but has been absurdly rendered "Blind savana", from an incorrect idea that it is derived from Iga'ti, a swamp or savanna, and dige'wi, blind.

Ani-Gila'hi - "Long-haired people", one of the seven Cherokee clans, singular Agila'hi. The word comes from agila'hi (perhaps connected with afi leg-ni, "the back of (his) neck"), an archaic term denoting wearing the hair long or flowing loosely, and usually recongnized as applying more particularly to a woman.

Ani'-Gili' - a problematic tribe, possible the Congaree. The name is not connected with gi'li', dog.

Ani'-Gusa - see Ani'Ku'sa.

a'nigwa - soon after; dine'tlana a'nigwa, "soon after the creation".

Ani'-Hyun'tikwala'ski - "The Thunders", i.e., thunder, which in Cherokee belief, is controlled and caused by a family of supernaturals. The word has reference to making a rolling sound; cf. tikwale'lu, a wheel, hence a wagon; ama'-tikwalelunyi, "rolling water place", applied to a cascade where the water falls along the surface of the rock; ahyun'tikwala'stihu', "it is thundering" applied to the roar of a railroad train or waterfall.

Ani'-Kawi' - "Deer people", one of the seven Cherokee clans; the regular form for deer is a wi'.

Ani'-Kawi'ta - the Lower Creeks, from Kawi'ta or Coweta, their former principal town on Chattahoochee river near the present Columbus, Ga.; the Upper Creeks on the head streams of Alabama river were distinguished as Ani'-Ku'sa (q.v.) A small creek of Little Tennessee river above Franklin, in Macon county, N. C., is now known as Coweeta creek.

Ani'-Kitu'hwagi - "Kitu'hwa people", from Kitu'hwa (q.v.), an ancient Cherokee settlement.

Ani'-Ku'sa or Ani'-Gu'sa - the Creek Indians, particularly the Upper Creeks on the waters of Alabama river; singular A'Ku'sa or Coosa (Spanish, Coca, Cossa) their principal ancient town.

Ani'-Kuta'ni)also Ani'-Kwata'ni, or incorrectly, Nicotani) - traditional Cherokee priestly society or clan exterminated in a popular uprising.

anina'hilidahi - "creatures that fly about", from tsinai'li, "I am flying", tsina'ilida'hu, "I am flying about". The generic term for birds and flying insects.

Ani'-Na'tsi - abbreviated Anintsi, singular A-Na'tsi. The Natchez Indians. From coincidence with na'tsi, pine, the name has been incorrectly rendered "Pine Indians", whereas it is really a Cherokee plural name of the Natchez.

Anin'tsi - see Ani'Nátsi.

Ani'Nundawe'gi - singular, Nun'dawe'gi; the Iroquois, more particularly the Seneca, from Nundawao, the name by which the Seneca call themselves. Adair spells it Anantooeah. The tribe was also known as Ani'-Se'nika.

Ani'-Saha;ni - one of the seven Cherokee clans; possible an archaic form for "Blue People", from sa ka'ni, sa'ka'nige'i, blue.

Ani'-Sa'ni, Ani'-Sawaha'ni - see Ani'-Sawanu'gi.

Ani'-Sawanu'gi (singular Sawanu'gi) - the Shawano Indians. Ani'-sa'ni and Ani'-Sawaha'ni may be the same.

Ani'-Se'nika - see Ani'Nundawe'gi.

Anisga'ya Tsunsdi' (ga) - "The Little Men"; the Thunder Boys in Cherokee mythology.

Ani'-sgayaiyi - "Men town" (?), a traditional Cherokee settlement on Valley river, in Cherokee county, North Carolina.

Ani'sgi'na - plural of asgi'na, q.v.

Ani'skwa'ni - Spaniards, singular, Askwa'ni.

Ani'-Suwa'li - or Ani'-Swqa'la - the Suala, Sara or Cheraw Indians, formerly about the headwaters of Broad river, North Carolina, the Xuala province of the De Soto chronicle, and Joara or Juada of the later Pardo narrative.

Ani'ta'gwa - the Catawba Indians; singular, Ata'gwa or Tagwa.

Ani'-Tsa'guhi - the Cherokee clan, transformed to bears according to tradition, Swimmer's daughter bears the name Tsaguhi, which is not recognized as distinctively belonging to either sex.

Ani'-Tsa'lagi' - the Cherokee.

Ani'-Tsa'ta - the Choctaw Indians; singular, Tsa ta.

Ani'-Tsi'ksu - the Chickasaw Indians; singular, Tsi'ksu.

Ani'-Tsi'skwa - "Bird people"; one of the seven Cherokee clans.

Ani'-Tsu'tsa - "The Boys', from atsu'tsa, boy; the Pleiades.

Ani'-Wa'di - "Paint people"; one of the seven Cherokee clans.

Ani'=Wa'dihi' - "Place of the Paint people or clan"; Paint town, a Cherokee settlement on lower Soco creek, within the reservation in Jackson and Swain counties, North Carolina. It takes its name from the Ani'-Wa'di or Paint clan.

ani'wani'ski - the bugle weed, Lycopus virginicus; literally, "the talk" or "talkers", from tsiwa'nihi, "Iam talking", awaniski, "he talks habitually".

Ani'-Wasa'si - the Osage Indians; singular, Wasa'si.

Ani'-Wa'ya - "Wolf people"; the most important of the seven clans of the Cherokee.

Ani'-Yun'wiya' - Indians, particuarly Cherokee Indians; literally "principal or real people", from yunwi, person, ya, a suffix implying principal or real, and ani', the tribal prefix.

Ani'-Yu'tsi - the Yuchi or Uchee Indians; singular, Yu'tsi.

Annie Ax - see Sadayi'.

Aquone - a post-office on Nantahala river, in Mason county, North Carolian, site of the former Fort Scott. Probably a corruption of egwani, river.

Arch, John - see Atsi.

Asa'gwalihu' - a pack or burden; asa'gwal lu', or asa'gwi li', "there is a pack on him".

asehi' - surely.

Ase'nika - singular of Ani'-Se'nika.

asga'ya - man.

asga'ya Gi'gagei - the "Red Man"; the Lightning spirit.

asgi'na - a ghost, either human or animal; from the fact that ghosts are commonly supposed to be malevolent, the name is frequently rendered "devil".

Asheville - see Kasdu'yi and Unta'kiyasti'yi.

asi - the sweat lodge and occasional winter sleeping apartment of the Cherokee and other southern tribes. It was a low built structure of logs covered with earth and from its closeness and the fire usually kept smoldering within was known to the old traders as the "hot house".

asiyu' (abbreviated siyu') - good; the common Cherokee salute; ga'siyi',"I am good"; hasiyu', "thou art good"; a'siyu, "he (it) is good"; astu, "very good".

Askwa'ni - a Spaniard. See Ani'skwa'ni.

astu' - very good; astu tsiki', very good, best of all.

Astu'gata'ga - A Cherokee lieutenant in the Confederate service killed in 1862. The name may be rendered, "Standing in the doorway", but implies that the man himself is the door or shutter; it has no first person; gata'ga, "he is standing"; stuti, a door or shutter; stuhum a closed door or passage; stugi'sti, a key, i.e., something with which to open the door.

asun'tli, asuntlun'yu - a footlog or bridge; literally, "log lying across", from asi'ta, log.

ata' - wood; ata'ya, "principal wood", i.e., oak; cf. Muscogee iti, wood.

Ata'-gul kalu' - a noted Cherokee chief, recognized by the British government as the head chief or "emporer" of the Nation, about 1760 and later, and commonly known to the whites as the Little Carpenter (Little Cornplanter, by mistake, in Haywood). The name is frequently spelled Atta-kulla-kulla, Ata-kullakulla or Ata-culculla. It may be rendered "Learning wood", from ata', "Wood" and gul kalu, a verb implying that something long is leaning, without sufficient support, against some other object; it has no first person form. Bartram describes him as "A man of remarkably small stature, slender and of a delicate frame, the only instance I saw in the Nation; but he is a man of superior abilities".

Ata'gwa - a Catawba Indian.

Atahi'ta - abbreviated from Atahitun'yi, "Place where they shouted", from gata'hiu', "I shout", and yi, locative. Waya gap, on the ridge west of Franklin, Macon county, North Carolina. The map name is probably from the Cherokee wa ya, wolf.

Ata-Kullakulla - see Ata'-gul kalu'.

a'tali - mountain; in the Lower dialect a'tari, whence the "Ottace" or Upper Cherokee of Adair. The form a'tali is used only in composition; and mountain in situ is atalunyi or gatu'si.

a'tali-guli' - "it climbs the mountain", i.e., "mountain-climber"; the ginseng plant, Ginseng quinquefolium; from a'tali, mountain, and guli', "it climbs" (habitually); tsilahi' or tsili', "I am climbing". Also called in the sacred formulas, Yun'wi Usdi", "Little man".

Atala'nuwa - "Tla'nuwa hole"; the Cherokee name of Chattanooga, Tennessee (see tsatanu'gi); originally applied to a bluff on the south side of the Tennessee river, at the foot of the present Market street.

a'talulu' - unfinished, premature, unsuccessful; whence utalu'li, "it is not yet time".

Ata'lunti'ski - a chief of the Arkansas Cherokee about 1818, who has originally emigrated from Tennessee. The name, commonly spelled Tollunteeskee, Taluntiski, Tallotiskee, Tallotuskee, etc., denotes one who whtorw some living object from a place, as an enemy from a precipice.

A'tari - see a'tali.

atasi' (or atasa', in a dialectic form) - a war-club.

atatsun'ski - stinging; literally, "he stings" (habitually)

A'tsi - the Cherokee name of John Archn, one of the earliest native writers in the Sequoya characters. The word is simply an attempt at the English name Arch.

atsi'la - fire; in the Lower dialect, atsi'ra.

Atsi'la-wa'i - "Fire----"; a mountain sometimes known as Rattlesnake knob, about two miles northeast of Cherokee, Swain county, N. C.

Atsil'-dihye'gi - "Fire-Carrier"; apparently the Cherokee name for the will-of-the-wisp. As is usually the case in the Cherokee compounds, the verbal form is plural ("it carries fire"); the singular form is ahye'gi.

Atsil'-sunti (abbreviated tsil'-sunti) - fleabane (Erigeron canadense); the name signifies "material with which to make fire", from atsi'la, fire, and gasunti, gatsunti or gatlunti), material with which to make something from fasun'sku (or gatlun'sku), "I make it". The plant is also called ihya'ga.

atsil'-tluntu'tsi - "fire-panther". A meteor or comet.

A'tsina' - cedar.

A'tsina'-k ta'um - "Hanging cedar place"; from a'tsina', cedar, and k ta'un, "where it (long) hangs down"; a Cherokee name for the old Taskigi town on the Little Tennessee river in Monroe county, Tenn.

Atsi'ra - see atsi'la.

Atsun'sta ti'yi (abbreviated Atsun'sta ti) - "Fire-light place", referring to the fire-hunting method of killing deer in the river at night. The proper form for Chestatee river, near Dahlonega, in Lumpkin county, Ca.

Attakullakulla - see Ata-gul kalu'.

awa' - see ama'.

awa'hili - eagle; particularly Aquila Chrysaetus, distinguished as the "pretty-feathered eagle".

awi' - deer; also sometimes written and pronounced ahawi'; the name is sometimes applied to the large horned beetle, the flying stag of early writers.

awi'-ahanu'laki - goat; literally "bearded deer".

awi'-ahyeli'ski - "deer mocker"; the deer bleat, a sort of whistle used by hunters to call the doe by imitating the cry of the fawn.

awi'-akta; - "deer eye"; the Rudbeckia or black-eyed Susan.

awi'-e'gwa (abbreviated aw-e'gwa) - the elk, literally "great deer".

awi'-unade'na - sheep; literally "wooly deer".

Awi'Usdi' - "Little Deer", the mythic chief of the Deer tribe.

Ax, Annie - see Sadayi'.

Ax, John - see Itagu'nahi.

awe li - half, middle, in the middle.

Ayphwa'si - the proper form of the name commonly written Hiwassee. It signifies a savanna or meadow and was applied to two (or more) former Cherokee settlements. The more important, commonly distinguished as Ayuhwa'si Egwa'hi or Great Hiwassee, was on the north bank of Hiwassee river at the present Savannah ford above Columbus, in Polk county, Tenn. The other was farther up the same river, at the junction of Peachtree creek, above Murphy, in Cherokee county, N. C. Lanman writes it Owassa.

Ayrate - see e'ladi'.

Ays'sta - "The Spoiler", from tsiya'stihu, "I spoil it"; cf. uya'i, bad. A prominent woman and informant on the East Cherokee reservation.

Ayun'ini - "Swimmer"; literally, "he is swimming", from gayunini'. "I am swimming". A principal priest and informant of the East Cherokee, died in 1899.

Ayulsu' - see Dayulsun'yi.

Beaverdam - see Uy′gila'gi.
Big-Cove - see Ka'lanun'yi.
Big-Island - see Amaye′l-e'gwa.
Big-Witch - see Tskil-e'gwa.
Bird-Town - see Tsiskwa'hi.
Bloody-Fellow - see Iskagua.
Blythe - see Diskwani.
Black-fox - see Ina'li
Boudinot, Elias - see Galagi'na.
Bowl, The: Bowles, Colonel - see Diwali.
Brass - see Untsaiyi'.
Brasstown - see Itse'yi.
Breadth, The - see Unli'ta.
Briertown - see Kanu'gula'yi.
Buffalo (creek) - see Yunsa'i.
Bull-Head - see Sukwale'na.
Butler, John - see Tsan'-uga'sita.

Cade's Cove - see Tsiya'hi.
Canacaught - "Canacaught, the great Conjurer"; mentioned as a Lower Cherokee chief in 1684; possibly kanegwa'ti, the water-moccasin snake.
Canaly - see hi'gina'lii.
Canasagua - see Gansa'gi.
Cannastion, Cannostee - see Kana'sta.
Canuga - see Kanuga.
Cartoogaja - see Gatu'gitse'yi.
Cataluchee - see Gadalu'tsi.
Cauchi - a place, apparently in the Cherokee county, visited by Pardo in 1567.

Caunasaita - given as the name of a Lower Chief in 1684, possibly for Kanunsi'ta, "dogwood".
Chalaque - see Tsa'lagi.
Chattanooga - see Tsatanu'gi.
Chattooga, Chatuga - see Tsatu'gi.
Cheeowhee - see Tsiya'hi.
Cheerake - see Tsa'lagi.
Cheraw - see Ani'-Suwa'li.
Cheowa - see Tsiya'hi.
Cheowa Maximum - see Schwate'yi.
Cheraqui - see Tsa'lagi
Cherokee - see Tsa'lagi.
Chestatee - see Atsun'sta ti'yi.
Chestua - see Tsistu'yi.
Cheucunsene - see Tsi'hama'gi.
Chilhowee - see Tsu lun'we.
Chimney Tops - see Duni'skwa lgun'i.
Chisca - mentioned in the De Soto narratives as a mining region in the Cherokee country. The name may have a connection with Tsi'skwa, "bird" possibley Tsiskwa'hi, "Bird place".
Choastea - see Tsistu'yi.
Chopped Oak - see Digalu'yantun'yi.
Choquata - see Itsa'ti.
Citico - see Si'tiku'.
Clear-sky - see Iskagua.
Clennuse - see Tlanusi'yi.
Cleveland - see Tsistetsi'yi.
Coca - see Ani'-Ku'sa.
Coco - see Kuku'.
Cohutta - see Gahu'ti.
Colanneh, Colona - see Ka'lanu.
Conasauga - see Gansa'gi.
Conneross - see Kawan'-ura'sunyi.
Coosawatee - see Ku'saweti'yi.
Cooweescoowee - see Gu'wisguwi'.
Coosa - see Ani'-Ku'sa, Kusa.
Corani - see Ka'lanu.
Cowee' - see Kaw'yi.
Coweeta, Coweta - see Ani'-Kawi'ta.
Coyatee (variously spelled Cawatie, Coiatee, Coytee, Coytoy, Kai-a-tee) - a former Cherokee settlement on Little Tennessee river, some ten miles below the junction of Tellico, about the present Coytee post-office in Loudon county, Tennessee.
Creek-path - see Ku'sa-nunna'hi.
Crow-town - see Kagun'yi.
Cuhtahlatah - a Cherokee woman noted in the Wahnenauhi manuscript as having distinguished herself by bravery in battle. The proper form may have some connection with gatun'lati, "wild hemp".

Cullasagee - see Kulse'tsi'yi.
Cullowhee, Currahee - see Gulahi'yi.
Cuttawa - see Kitu'hwa.

Dagan tu - "he makes it rain"; from aga'ska, "it is raining"; aga'na, "it has begun to rain"; a small variety of lizard whose cry is said to presage rain. It is also called a'niganti'ski, "they make it rain" (plural form), or rain-maker.

dagul ku - the American white-fronted goose. The name may be an onomatope.

dagu'na - the fresh-water mussel; also a variety of face pimples.

Dagun'hi - "Mussel place", from dagu'na, mussel, and hi, locative. The mussel shoals on Tennessee river, in northwestern Alabama. It was sometimes called also simply Tsu stanalun'yi, "Shoal's place".

Dagu'nawa'lahi - "Mussel-liver place", from dagu'na, mussel, uwe'la, liver, and hi, locative; the Cherokee name for the site of Nashville, Tenn. No reason can now be given for the name.

Dahlonega - a town in Lumpkin county, Ga., near which the first gold was mined. A mint was established there in 1838. The name is from the Cherokee dala'nige'i, yellow, whence ate'la-dala'-nige'i, "yellow money", i.e., gold.

daksawa'ihu - "he is shedding tears".

dakwa' - a mythic great fish; also the whale.

Dakwa'i - "dakwa place", from a tradition of a dakwa' in the river at that point. A former Cherokee settlement, known to the traders as Toqua or Toco, on Little Tennessee river, about the mouth of Toco creek in Monroe county, Tenn. A similar name and tradition attaches to a spot on the French Broad river, about six miles above the Warm springs, in Buncombe county, N. C.

dakwa'nitlastesti - "I shall have them on my legs for garters"; from anitla'sti (plural dinitla'sti), garter; d-, initial plural; akwa, first person particle; and esti, future suffix.

ad'liksta' - "vomiter", from dagik'stihy', "Iam vomitting", daliksta', "he vomits" (habitually); the form is plural. The spreading adder (Heterodon), also sometimes called kwandaya'hu, a word of uncertain etymology.

Da nagasta - for Da' nawa-gasta'ya, "Sharp-war", i.e., "Eager-warrior; a Cherokee woman's name.

Da' nawa-(a)sa tsun'yi, "War-ford", from da' nawa, war, and asa tsun'yi, "a crossing-place or ford. A ford on Cheowa river about three miles below Robbinsville, in Graham county, N. C.

Danda'ganu' - "Two looking at each other", from detsi'ganu', "I am looking at him". A former Cherokee settlement, commonly known as Look-out Mountain town, on Lookout Mountain creek, near the present Trenton, Dade county, Ga. One of the Chicamauga towns (see Tsi'kama'gi), socalled on account of the appearance of the mountains facing each other across the Tennessee river at Chattanooga.

Da'si giya'gi - an old masculine personal name, of doubtful etymology, but commonly rendered by the traders "Shoe-boots", possible referring to some peculiar style of moccasin or leggin. A chief known to the whites as Shoe-boots is metioned in the Revolutionary records. Chief Lloyd Welch, of the eastern band, was known in the tribe as Da'si giya'gi, and the same name is now used by the East Cherokee as the equivalent of the name Lloyd.

Da'skwitun'yi - "Rafter's Place", from daskwitun'i, rafters, and yi, locative. A former settlement on Tusquittee creek, near Hayesville, in Clay county, N. C.

dasun'tali - ant; dasun'tali, "stinging ant", the large red cowant (Myrmica) also called sometimes, on account of its hard body-case, nun'yunu'wi, "Stone-clad", after the fabulous monster.

Datle'yasta'i - "where they fell down", a point on Tuckasegee river, a short distance above Webster, in Jackson county, N. C.

datsi - a traditional water-monster.

Datsi'yi - "Datsi place"; a place on Little Tennessee river, near junction of Eagle creek in Swain county, N. C.

Datsu'nalagun'yi - "Where there are tracks or footprints", from uta'sinun'yi or ulasgun'yi, footprint. Track Rock gap, near Blairsville, Ga. Also sometimes called De'gayelun'ha, "place of branded marks".

da'yi - beaver.

Dayulsun'yi - "place where they cried", a spot on the ridge at the head of Tuckasegee river, in Jackson county N. C.; so-called from an old tradition.

da'yuni'si - "beaver's grandchild" from dayi, beaver, and uni'si, son's child of either sex. The water bettle or mellow bug.

Degal gun'yi - a cairn, literally "where they are piled up"; a sèries of cairns on the south side of Cheowa river, in Graham county, N. C.

De'gata'ga - The Cherokee name of General Stamd Watie and of a prominent early western chief known to the whites as Takatoka. The word is derived from tsita'ga, "I am standing", da nita'ga "they are standing together", and conveys the subtle meaning of two persons standing together and so closely united in sympathy as to form but one human body.

De'gayelun'ha - see Datsu'nalagun'yi.

detsanun'li - an enclosure or piece of level ground cleared for ceremonial purposes; applied more particularly to the green-corn dance ground. The word has a plural form, but cannot be certainly analyzed.

De'tsata - a Cherokee sprite.

detsinu'lahungu' - "I tried, but failed".

Didalaski'yi - "Showering place". In the story (number 17) the name is understood to mean "the place where it rains fire". It signified literally, however, the place where it showers, or comes down, and lodges upon something animate and has no definite reference to fire (atsi'la) or rain (afaska, "it is raining"); degalsaku', "they are showering down and lodging upon him".

Dida'skasti'yi - "where they were afraid of each other", a spot on Little Tennessee river, near the mouth of Alarka creek, in Swain county, N. C.

diga'gwani' - the mud-hen or didapper. The name is plural form and implies "lame", or"crippled in the legs" (cf. detsi'nigwa'na, "I am knelling"), probably from the bouncing motion of the bird when in the water, It is also the name of a dane.

Diga'kati'yi - see Gakati'yi.

di'galungun'yi - "where it rises, or comes up"; the east. The sacred term is Nunda'yi, q.v.

digalun'latiyun - a height, one of a series, from galun' lati, "above".

Digalu'yatun'yi - "where it is gashed)with hatchets)"; from tsilu'yu, "I am cutting (with a chopping stroke)", di, plural prefix, and yi, locative. The Chopped Oak, formerly east of Clarkesville, Ga.

Digane'ski - "he picks them up" (habitually), from tsine'u, "I am picking it up". A Cherokee Union soldier in the Civil War.

digi'gage'i - the plural of gi'gage'i, red.

digu'lanahi'ta - for digu'li-anahi'ta, "having long ears", "long-eared"; from gule, "ear" and gunahi'ta, "long".

Dihyun'dula' - "sheaths" or "scabbards"; singular ahyun'dula', a "gun-sheath", or other acabbard. The probable correct form of a name which appears in Revolutionary documents as Untoola, or Gum rod.

Dikta' - plural of Akta', eye.

dila" - skunk.

dilsta'yati - "scissors"; the water-spider (Dolomedes).

dinda'skwateski - the violet; the name signified, "they pull each others' heads off.

dine'tlana - the creation.

din nuski - "the breeder"; a variety of smilar brier.

Disga'gisti'yi - "where they gnaw"; a place on Cheowa river, in Graham county, N. C.

diskwa ni - "chestnut bread", i.e., a variety of bread having chestnuts mixed in it. The Cherokee name of James Blythe, interpreter and agency clerk.

Distai'yi - "they are strong", plural of astai'yi, "strong or tough". The Tephrosia or devil's shoestring.

dista'sti - a mill (generic).

dita'stayeski - "a barber", literally "one who cuts things (as with scissors) from tsista'yu, "I cut". The cricket (tala'tu) is sometimes so-called.

Diwa'li - "Bowl", a prominent chief of the western Cherokee, known to the whites as The Bowl, or Colonel Bowles, killed by the Texans in 1839. The chief mentioned may have been another of the same name.

diya'hali (or duya'hali) - the alligator lizard (Sceloporue undulatus).

Diya'hali'yi - "Lizard's place", from diya'hail, lizard, and yi, locative. Joanna Bald, a mountain at the head of Valley river on the line between Cherokee and Graham counties, N. C.

Double-Head - see Tal-tsu'ska'.

Dragging-Canoe - see Tsi'yu-gunsi'ni.

Dudun'leksun'yi - "where its legs were broken off"; a place on Tuskasegee River, a few miles above Webster, in Jackson county, N. C.

Dugilu'yi (abbreviated Dugily', and commonly written Tugaloo, or sometimes Toogelah or Toogoola) - a name occurring in several places in the old Cherokee country, the best known being Tugaloo river, so-called from a former Cherokee settlement of that name situated at the junction of Toccoa creek with the main stream, in Habersham county, Ga. The word is of uncertain etymology, but seems to refer to a place at the forks of a stream.

Dukas'i, Dukwas'i - The correct form of the name commonly written Toxaway, applied to a former Cherokee settlement in S.C., and the creek upon which it stood, and extreme headstream of Keowee river having its source in Jackson county, N. C. The meaning of the name is lost, although it has been wrongly interpreted to mean "place of shedding tears".

Dulastun'yi - "Potsherd place". A former Cherokee settlement on Nottely river in Cherokee county, N. C.

dule'tsi - "kernels", a goitrous swelling upon the troat.

dulu'si - a variety of frog found upon the headwaters of Savannah river.

Duniya ta lun'yi - "where there are shelves, or flat places", from aya te'ni, flat, whence da'ya tana lun'i, a shelf, and yi, locative. A gap on the Great Smoky range near Clingman's dome, Swain county, N. C.

Dunidu'lalun'yi - "where they amde arrows"; a place on Straight creek, a headstream of Oconaluftee river, in Swain county, N. C.

Duni'skwa lgun'i - the double peak known as the Chimney Tops, in Great Smoky Mountians about the head of Deep creek, in Swain county N. C. On the north side is the pass known as Indian gap. The name signifies a "forked antler", from uskawa lgu, antler, but indicates that the antler is attached in place, as though the deer itself were concealed below.

Du'stayalun'yi - "where it made a noise as of thunder or shooting", apparently referring to a lightning stroke (detsistaya'hihu), "I make a shooting or thundering noise", might be a first person form used by the personfied Thundergod); a spot on Hiwassee river, about the junction of Shooting creek, near Hayesville, in Clay county, N. C. A former settlement along the creek bore the same name.

du'stu' - a species of frog, appearing very early in spring; the name is intended for an onomatope. It is the correct form of the name of the chief noted by McKenney and Hall as "Tooantuh or Spring Frog".

Dutch - see Tatsi'.

duwe ga - a spring lizard.

Eagle Dance - see Tsugidu'li ulsgi'sti.
Eastinaulee - see U'stana'li.
Echota, New - see Gansa'gi.
edata - my father (Upper dialect); the Middle and Lower dialect form is agida'ta.

Edi'hi - "He goes about" (habitually); a masculine name.

edutu - my maternal grandfather (Upper dialect); the Middle and Lower dialect form is agidu tu; cf. enisi.

egwa - great; cf. utanu.

egwani - river.

Egwanulti - "By the river", from egwa ni, river, and nulati or nulti, near beside. The proper form of Oconaluftee, the name of the river flowing thru the East Cherokee reservation in Swain and Jackson Counties, N. C. The town, Oconaluftee, mentioned by Bartram as existing about 1775, was probably on the lower course of the river at the present Birdtown, on the reservation, where was formerly a considerable mound.

ela - earth, ground.

eladi - low, below; in the Lower dialect eradi, whence the Ayrata or Lower Cherokee of Adair, as distinguished from the Ottara (atari, atali) or Upper Cherokee.

elanti - a song form for eladi, q.v.

Elatse'yi, (abbreviated Elatse) - "Green (verdant) earth", from ela, earth, and itse yi, green, from fresh-springing vegetation. The name of several former Cherokee settlements, commonly known to the whites as Ellijay, Elejoy or Allagae. One of these was upon the headwaters of Keowee river in S. C.; another was on Ellijay creek of Little Tennessee river, near the present Franklin, in Macon Co., N.C., another was about the present Ellijay in Gilmer Co., Ga.; and still another was on Ellijay creek of Little river, near the present Maryville, in Blount Co., Tenn.

Elawa diyi (abbreviated Elawa di) - "Red-earth place", from ela, earth, wadi, brown-red or red paint, and yo, the locative. 1. The Cherokee name of Yellowhill settlement, now officially known as Cherokee, the post office and agency headquarters for the East Cherokee, on Oconaluftee river, in Swain Co., N. C. 2. A former council ground known in history as Red Clay; at the site of the present village of that name in Whitfield Co., Ga., adjoining the Tennessee line.

Ellijay - see Elatse'yi.

eni si - my paternal grandfather (Upper dialect); the Middle and Lower dialect form is agani si, cf. edutu.

Eskaqua - see Iskagua.

Estanaula, Estinaula - see U'stana'li.

Etawa ha tsistatla'ski - "Deadwood-lighter", a traditional Cherokee conjurer.

eti - old, long ago.

Etowah - see I'tawa'

Etsaiyi - see Untsaiyi.

etsi - my mother (Upper dialect); the Middle and Lower dialect form is agitsi.

Euharlee - see Yuha'li.

Feather dance - see Tsugidu'li ulsgi'sti.
Fightingtown - see Walas'-unulsti yi.
Flax-toter - see Tale'danigi'ski.
Flying-squirrel - see Ka'lahu'.
Frogtown - see Walasi'yi.

Gadalu'la - the proper name of the mountain known to the whites as Yonah (from yanu, bear); or upper Chattahoochee river, in White Co. ga. The name has no connection with Tallulah (see Talulu) and cannot be translated.

Gadalu'tsi - in the corrupted form of Cataluchee this appears on the map as the name of a peak, or rather a ridge, on the line between Swain and Haywood counties, N. C., and of a creek running down on the Haywood side into Big Pigeon river. It is properly the name of the ridge only, and seems to refer to a "fringe standing erect", apparently from the appearance of the timber growing in streaks along the side of the mountain; from wadalu'yata, fringe, gadu'ta, "standing up in a row or series".

gahawi'siti - parched corn.

Gahuti (Gahu'ta and Gwahu'ti in dialect forms) - Cohutta mountains in Murray Co., Ga. The name comes from gahuta'yi, "ashed roof supported on poles, and refers to a fancied resemblance in the summit.

Gakati'yi - "place of setting fire"; something spoken in the plural form, Diga'kati'yi, "place of the setting free". A point on Tuckasegee river, about three miles above Bryson City, in Swain Co., N. C.

gaktun'ta - an injunction, command or rule, more particularly a prohibition or ceremonial tabu. Tsiga'te'gu. "I am observing an injunction or tabu"; adakte'gi, "he is under tabu regulations".

Galagi'na - a male deer (buck) or turkey (gobbler); in the first sense the name is sometimes used also for the large horned beetle (Dynastes tityus). The Indian name of Elias Boudinot, first Cherokee editor.

gali'sgisida'hu - "I am dancing about"; from gali'sgia, "I am dancing" and edahu, "I am going about".

galunkw'ti'yo - honored; sacred, used in the bible to mean holy, hallowed.

galun'lati - above, on high.

gane'ga - skin.

ganidawa'ski - "the champion catchfly" or "rattlesnake's master" (Silene stellata); the name signified "it disjoints itself", from ganidawsku', "it is unjointing itself", on account of the peculiar manner in which the dried stalk breaks off at the joints.

Gansagi (or Gansagiyi)- the name of several former settlements in the old Cherokee country; it cannot be analyzed. One of this name was upon Tuckasegee river, a short distance above the present Webster, in Jackson Co., N. C.; another was on the lower part of Canasauga creek, in McMinn Co., Tenn.; a third was at the junction of Conasauga and Coosawatee rivers, where afterwards was located the Cherokee capital, New Echota, in Gordon Co., Ga.; a fourth, mentioned in the De Soto narratives as Canasoga or Canasagua, was located in 1540 on the upper Chattahoochee river, possibly in the neighborhood of Kennesaw mountain, Ga.

Gansa'ti'yi - "robbing place", from tsina'sahunsku, "I am robbing him". Vengence creek of Valley river in Cherokee Co., N. C. The name vengeance was originally, a white man's nickname for an old Cherokee woman, of forbidding aspect, who lived there before the Removal.

Ganse'ti - a rattle; the the Cherokee dance rattle is made from the gourd, the masculine name, Ganse'ti, is usually rendered by the whites, "rattling-gourd".

gatausti - the wheel and stick of the Southern tribes, incorrectly called nettecwaw by Timberlake.

Gategwa' - for Gategwa'hi, possibly a contraction of Igat(I)-egwa'hi, "Great-swamp, "thicket place". A high peak southeast from Franklin, Macon Co., N. C. and perhaps identical with Fodderstack mountain.

ga'tsu - see hatlu'.

Gatu'gitse'yi (abbreviated Gatu'gitse') - "New-settlement place", from gatu'gi or agatu'gi, town, settlement, itsehi, new especially applied to new vegetation, and yi, the locative. A former settlement on Cartoogaja creek near the present Franklin, in Macon Co., N. C.

Gatugi'yi - "Town building place", of "Settlement place", from gatu'gi, a settlement, and yi, locative. A place on Santeetla creek, near Robbinsville in Graham Co., N. C.

Gatun'iti'yi - "Hemp place", from Gatun'lati, "wild hemp" (Apocynum cannabinum), and yi, locative. A former Cherokee settlement, commonly known as Hemptown, on the creek of the same name, near Morgantown, in Fannin Co., Ga.

Gatun'wa'li - a noted western Cherokee, about 1842, known to the whites as Hardmush or Big-Mush. Gatun'wa'li, from ga'tu', "bread", and unwa'li, "made into balls or lumps", is a sort of mush or parched corn meal, made very thick, so that it can be dipped out in lumps almost of the consistency of bread.

ge'i - down stream, down the road, with the current; tsa'gi, up stream.

gese'i - was; a separate word which, when used after the verb in the present tense, makes it past tense without change of form; in the form hi'gese'i it usually accompanies an emphatic repetition.

Ge'yagu'ga (for Age;hya'-guga?) - a formulistic name for the moon (nun'da') it cannot be analyzed. but seems to contain the word age'hya, "woman". See also nun'da'.

gi'ga - blood; cf. gi'gage'i, red.

gi'ga-danegi'ski - "blood taker", from gi'ga, blood, and ada'negi'ski, "one who takes liquids", from tsi' negia' (liquid). Another name for the tsane'ni or scorpion lizard.

gi'gage'i - red, bright red, scarlet; the brown-red of certain animals and clays is distinguished as wa'dige'i.

gi'ga-tsuha'li - "bloody-mouth", literally "having blood on the corners of his mouth"; from gi'ga, blood, the tsuhanunsi'yi, the corners of the mouth (aha'li, his mouth). A large lizard, probably the pleistodon.

gili - dog; the Lower dialect, gi'ri.

Gili-dinehun'yi - "where the dogs live", from gili, dog, dinehu', "they dwell" (ehu, "I dwell"), and yi, locative. A place on Oconaluftee river a short distance above the present Cherokee in Swain Co., N. C.

Gi'li'-utsun'stanun'yi - "where the dog ran", from gi'li', dog, and Utsun'stanun'yi, "footprints made by an animal running"; the Milky way.

ginunti - a song form for gunu'tii'. "to lay him (animate object) upon the ground"

giri - see gi'li'.

Gisehun'yi - "where the female lives", from agi'si, female, and yi, locative. A place on Tuckasegee river a short distance above Bryson City, in Swain Co., N.C.

git'lu - hair. (Upper dialect); in Lower and Middle dialect gitsu.

Glass, The - see Ta'gwadihi'.

Gohoma - A Lower Cherokee chief in 1684; the form cannot be identified.

Great Island - see Amayel-e'gwa.

Gregory Bald - see Tsistu'yi.

Gauchoula - see Gauxule.

Guaquila (Waki la) - a town in the Cherokee country, visited by De Soto in 1540, and again in 1567 by Pardo, who calls it Aguaquiri, and the name may have a connection with waguli, "Whipporwill", or with u'wa'gi'li, "foam".

Guasula - see Guaxule.

Gusila - see Guaxule.

Guaxule - a town in Cherokee county, visited in 1540 by De Soto. It was propbably about at Nacoochee mound in White Co., Ga.

gu'day'wu - "I have sewed myself together"; "I am sewing", tsiye'wia'; tsiye'wia'; "I am sewing myself together".

gugwe' - the quail or partiridge.

gugwe'ulasu'la - "partridge moccasin", from guewe, partridge, and ulasula, moccasin or shoe; the lady slipper.

Gulahi'yi (abbreviated Gulahi', or Gurahi', in the Lower dialect) - "Gula'hi place", so-called from the unidentified spring plant eaten as a salad by the Cherokee. The name of two or more places in the old Cherokee country; one about Currahee mountain, in Habersham Co., Ga., the other on Cullowhee river, an upper branch of Tuckasegee, in Jackson Co., N. C. Currahee Dick was a noted chief about the year 1820.

Gu'lani'yi - a Cherokee and Natchez settlement, formerly about the junction of Brasstown creek with Hiwassee river, a short distance above Murphy, in Cherokee Co.,N. C. The etymology of the word is doubtful.

gule'- acorn.

gule'diska'nihi - the turtle-dove; literally "it cries, or mourns, for acorns", from gule, acron, and diska'nihi', "it cries for them", (di- plural prefix, hi, habitual suffix). The turtle-dove feeds upon acorns and its cry somewhat resembles the name, gule.

gule'gi - "climber", from tsilahi, "I climb" (second person, hi'lahi; third person, gulahi); the blacksnake.

Gul'kala'ski - an earlier name for Tsunu'lahun'ski, q/v.

gul'kwa'gi - seven; also the mole-cricket.

gul'kwa'gine(-i) - seventh; from gul'kwagi, seven.

Gulsadihi (or Gultsadihi'?) - a masculine name of uncertain etymology.

gunahi'ti - long.

Gu'nahitun'yi - Long place (i.e. Long valley), from gunahi'ti, long, and yi, locative. A former settlement known to the whites as Valleytown, where now is the town of the same name on Valley river in Cherokee Co., N.C. The various settlements on Valley river and the adjacent part of Hiwassee were known collectively as "Valley towns".

Gun'di'gaduhun'yi (abbreviated Gun'-digadu'hun) - "Turkey settlement" (gu'na, turkey), so-called from the chief, Turkey or Little Turkey. A former settlement, known to the whites as Turkeytown, upon the west bank of Coosa river, opposite the present Center, in Cherokee, Co., Ala.

gu'ni - arrow. Cf. Senica, ga'na.

gun'nage'i - (or gun'nage) black.

Gunne'hi - see Nunne'hi.

Gunskali'ski - a masculine personal name of uncertain etymology.

Gunters Landing, Guntersville - see Ku'sa-Nunna'hi.

Gun'tuskwa'li - "short arrows", from guni, arrow, and tsuskwa'li, plural or uska'li, short; a traditional western tribe.

Gunun'da'le'gi - see Nunna'hi'dihi.

Gusti' - a traditional Cherokee settlement on Tennessee river, near Kingston, Roane Co., Tenn. The name cannot be analyzed.

Gu'wisguwi' - The Cherokee name of the chief John Ross, and for the district named in his honor, commonly spelled Cooweescoowee. Properly an onomatope for a large bird said to have been seen formerly at infrequent intervals in the old Cherokee country, accompanying the migratory wild geese, and described as resembling a large snipe, with yellow legs and unwebbed feet. In boyhood John Ross was known as Tsan'usdi, "Little John".

Gwal'ga'hi - "Frog-place" from gwal'gu, a variety of frog, and hi, locative. A place on Hiwassee river, just above the junction of Peachtree creek, near Murphy, in Cherokee Co.,N.C.; about 1755 the site of a village of refugee Natchez, and later of a Baptist mission.

gwehe' - a cricket's cry.

Ha! - an introductory exclamation intended to attract attention or add emphasis; about equivalent to Here! Now!

Ha'-ma'ma' - a song term compounded of ha! an introductory exclamation, and mama', a word which has no analysis, but is used in speaking to young children to mean "let me carry you on my back".

Hanging-maw - see Uskwa'li-gu'ta.
ha'nia-lil'-lil' - an unmeaning dance refrain.
Hard-mush - see Gatun'wali.
ha'tlu - dialectic form, ga'tsu, "where?" (interrogative).
ha'wiye'ehi', ha'wiye'hyuwe' - unmeaning dance refrains.
hayu' - an emphatic affirmative, about equivalent to "Yes, sir".
hayuya'haniwa' - an unmeaning refrain in one of the bear songs.
he'e! - an unmeaning song introduction.
Hemp-carrier - see Tale'danigi'ski.
Hemptown - see Gatunlti'yi.
hi! - unmeaning dance exclamation.
Hickory-log - see Wane'-asun'tlunyi.
hi'gina'lii - "(you are) my friend"; afina'lii, (he is) my friend." In whate man's jargon, canaly.
Hightower - see I'tawa".
hila'gu? - how many? how much? (Upper dialect); the Middle dialect form in hungu'.
hilahi'yu - long ago; the final yu makes it more emphatic.
hi'lunnu - "(thou) go to sleep"; from tsi'lihi', "I am asleep."

hi'ski - five; ef. Mohawk wisk. The Cherokee numerals including 10 are as follows: sa'gwu, ta'li, tsa'i, nun'gi, hi'ski, su'tali, gul kwa'gi, tsune'la, aska;hi.

Hiwassee - Ayuhwa'si.

hi'yagu'we - an unmeaning dance refrain.

Houston, Samuel - see Ka'lanu.

huhu - the yellow-breasted chat, or yellow mocking bird (Icteria virens); the name is an onomatope.

hunyahu'ska - "he will die".

hwi'lahi' - "thou (must) go".

Iau'nigu - an important Cherokee settlement, commonly known to the whites as Seneca, formerly on Keowee river, about the mouth of Conneross creek, in Oconee county, S.C. Hopewell, the county seat of General Pickens, where the famous treaty was made, was near it on the east side of the river. The word cannot be translated, but has no connection with the tribal name, Seneca.

igagu'ti - daylight. The name is sometimes applied to the ulunsu'ti (q.v.) and also to the clematis vine.

i'hya - the cane reed (Arundinaria) of the Gulf states, used by the Indians for blow-guns, fishing rods and basketry.

ihya'ga - see atsil'sunti.

inadu' - snake.

I'nadu-na'i - "Going snake", a Cherokee chief prominent about eighty years ago. The name properly signifies that the person is "going along in company with a snake", the verbal part being from the irregular verb asta'i, "I am going along with him". The name has been given to a district of the present Cherokee Nation.

i'nage'hi - dwelling in the wilderness, an inhabitant of the wilderness; from i'nage'i "wilderness", and ehi, habitual present form of ehu, "he is dwelling"; ge'u, "I am dwelling",

I'nage-utasun'hi - "he who grew up in the wilderness", i.e., "He who grew up wild"; from i'nage'i, "wilderness, unoccupied timer land", and utasun'hi, the third person perfect of the irregular verb ga'tunsku', "I am growing up".

Ina'li - Black-fox; the common red fox in tsu'la (in Muscogee, chula). Black-fox was principal chief of the Cherokee Nation in 1810.

Iskagua - Name for "Clear Sky", formerly "Nenetooyah or the Bloody Fellow".

The name appears thus in a document of 1791 as that of a Cherokee chief frequently mentioned about that period under the name of "Bloody Fellow". In one treaty it is given as "Eskaqua or Bloody Fellow". Both forms and etymologies are doubtful, neither form seeming to have any reference either to "sky" (galun'laki) or "blood" (gi'ga). The first may be intended for Ik-e'gwa "Great day".

Istanare - see Ustana'li.

Itaba - see I'tawa'.

Itagu'nahi - the Cherokee name of John Ax.

I'tawa' - The name of one or more Cherokee settlements. One, which existed until the Removal in 1838, was upon Etowah river, about the present Hightower, in Forsyth county, Ga. Another may have been on Hightower creek of Hiwassee river in Towns county, Ga. The name, commonly written Etowah and corrupted to Hightower, cannot be translated and seems not to be of Cherokee origin. A town, called Itaba, Ytaun or Ytava in the De Soto chronicles, existed in 1540 among the Creeks, apparently on Alabama river.

Itsa'ti - commonly spelled Echota, Chota, Chote, Choquata (misprint), etc; a name occurring in several places in the old Cherokee country; the meaning is lost. The most important settlement of this name, frequently distinguished as Great Echota, was on the south side of Little Tennessee. It was the ancient capital and sacred "Peace town" of the Nation. Little Echota was on Sautee (i.e., Its'ti) creek, a head stream of the Chattahoochee, west of Clarksville, Ga. New Echota, the capital of the Nation for some years before the Removal, was established at a spot originally known as Gansa'gi (q.v.) at the junction of the Oostanaula and Canasauga rivers, in Gordon county, Ga. It was sometimes called Newton. The old Macedonia mission on Soco creek, of the N. C. reservation, is also known as Itas'ti to the Cherokee, as was also the great Nacoochee mound. See Nagutsi'.

Itse'yi - "New green place" or "Place of fresh green", from itse'hi, "green or unripe vegetation", and yi, the locative; applied more particularly to a tract of ground made green by fresh springing vegetation, after having been cleared of timber or burned over. A name occuring in several places in the Old Cherokee country, variously written Echia, Echoee, Etchowee, and sometimes also falsely rendered "Brasstown", from a confusion of Itse'yi with untsaiyi', "brass". One settlement of this name was upon Brasstown creek of Tugaloo river, in Oconee county, S. C.; another was on Little Tennessee river near the present Franklin, Macon county, N.C., and probably about the junction of Cartoogaja (Gatug-itse'yi) creek; a third, known to the whites as Brasstown, was on upper Brasstown creek of Hiwassee river, in Towns county, Ga. In Cherokee, as in most other Indian languages, no clear distinction is made between green and blue.

i'ya - pumpkin.

i'ya-iuy'sti - "like a pumpkin", from iya and iyu'sti, like.

iya'-tawi'skage - "of pumpkin smoothness", from i'ya, pumpkin, and tawi'skage, smooth.

Jackson - see Tsek'sini'.
Jessan - see Tsesa'ni.
Jesse Reid - see Tse'si-Ska'tsi.
Joanna Bald - see Diya'hali'yi.
Joara, Juada - see Ani'-Sawa'li.
John - see Tsa'ni.
John Ax - see Itagu'naki.
Jolly, John - see Anu'lude'gi.
Junaluska - see Tsunu'lahun'ski.
Jutaculla - see Tsulkalu'.

ka'gu' - crow; the name is an onomatope.

Kagun'yi - "Crow place", from ka'gu', and yi, locative.

ka'i - grease, oil.

Kala'asun'yi - "where he fell off", from tsila'asku', "I am falling off", and yi, locative. A cliff near Cold Spring knob, in Swain county, N.C.

Ka'lahu' - "All-bones", from ka'lu, bone. A former chief of the East Cherokee also known in the tribe of Sawanu'gi.

Ka'lanu - "The Raven"; the name was used as a war title in the tribe and appears in the old documents as Corani (Lower dialect, Ka'ranu) Colonneh, Colona, etc. It is the Cherokee name for General Samuel Houston or for any person named Houston.

Ka'lanu Ahyeli'ski - the Raven Mocker.

K'lanun'yi - "Raven place", from ka'lanu, raven, and yi, the locative. The proper name of Big-cove settlement upon the East Cherokee reservation, Swain county, N.C., sometimes also called Raventown.

kalas'-gunahi'ta - "long hams" (gunahi'ta, "long"), a variety of bear.

Kal-detsi'yunyi - "Where the bones are", from ka'lu, bone, and detsi'yunyi, "where (yi) they (de-plural prefix) are lying". A spot near the junction of East Buffalo Creek with Cheowa river, in Graham county, N.C.

kama'ma - butterfly.

kama'ma u'tanu - elephant; literally "great butterfly", from the resemblance of the trunk and ears to the butterfly's proboscis and wings.

kanaha'na - s our corn gruel, much in use among the Cherokee and other Southern tribes; the tamfuli or "Tom Fuller" of the Creeks.

kanane'ski - spider; also, from a fancied resemblance in appearance to a watch or clock.

kanane'ski amaye'hi - the water spider.

Kana'sta, Kanastun'yi - a traditional Cherokee settlement, formerly on the head-waters of the French Broad river, near the present Brevard, in Transylvania county, N.C. The meaning of the first name is lost. A settlement called Cannostee or Cannastion is mentioned as existing on Hiwassee river in 1776.

kana'talu'hi - hominy cooked with walnut kernels.

Kana'ti - "Lucky Hunter"; a masculine name, sometimes abbreviated Kanat'. The word cannot be analyzed, but is used as a third person habitual verbal form to mean, "he is lucky, successful, in hunting"; the opposity is ukwa'legu, unlucky or unsuccessful, in hunting.

kanegwa'ti - the water-moccasin snake.

Kanuga - also written Canuga; a Lower Cherokee settlement apparently on the waters of Keowee river, in S.C., destroyed in 1751; also a traditional settlement on Pigeon river, probably near the present Waynesville, in Haywood county, N.C. The name signifies "a scrather", a sort of bone-toothed comb with which ball-players are scratched upon their naked skin preliminary to applying the conjured medicine; de'tsinuga'sku, "I am scratching it".

kanugu'la - (abbreviated nungu'la); "scratcher", a generic term for blackberry, raspberry, and other brier bushes.

Kanu'gulayi, or Kanu'gulun'yi - "Brier places", from kanugu'la, brier (cf. Kanu'ga); a Cherokee settlement formerly on Nantahala river, about the mouth of Briertown creek, in Macon county, N.C.

Kanun'nawu' - pipe.

Kasdu'yi - "Ashed place", from kasdu, ashes, and yi, the locative. A modern Cherokee name for the town of Asheville, Buncombe County, N.C. The ancient name for the same site is Unta'kiyasti'yi, q.v.

Katal'sta - an East Cherokee woman potter, the daughter of the chief Yanagun'ski. The name conveys the idea of lending, from tsiyatal'sta, "I lend it"; agatal;sta, "it is lent to him".

Kawan'-ura'sunyi - (abbreviated Kawan'-ura'sun in the Lower dialect) "where the duck fell", from kawa'na, duck, ura'sa (ula'sa), "it fell", and yi, locative. A point on Conneross creek (from Kawan'-ura'sun), near Seneca, in Oconee county, S.C.

Kawi'yi (abbreviated Kawi') - a former important Cherokee settlement commonly known as Cowee, about the mouth of Cowee creek of Little Tennessee river, some 10 miles below Franklin, in Macon county, N.C. The name may possible be a contraction of Ani'-Kawi'yi, "Place of the Deer clan".

Keeowhee - see Keowee.
Kenesaw - see Gansa'gi.

Keowee - the name of two or more former Cherokee settlements. One sometimes distinguished as "Old Keowee", the principal of the Lower Cherokee towns, was on the river of the same name, near the present Fort George, on Oconee county, of S.C. Another, distinguished as New Keowee, was on the head-waters of Twelve-mile creek, in Pickens county, S.C. According to Wafford the correct form is Kuwahi'yi, abbreviated Kuwahi', Mulberry-grove place". Says Wafford, "the whites murdered the name as they always do". Cf. Kuwa'hi.

Ke'si-ka'gamu - a woman's name, a Cherokee corruption of Cassie Cockran; ka'gamu is also the Cherokee corruption for "cucumber".

Ketoowah - see Kilu'hwa
Kittuwa - see Kitu'hwa.
Kitu'hwa - an important ancient Cherokee settlement formerly upon Tuckasegee river, and extending from above the junction of Oconaluftee down nearly to the present Bryson City, in Swain county, N.C. The name, which appears also as Kettooah, Kittoa, Kittowa, etc., has lost its meaning. The people of this and the subordinate settlements on the waters of the Tuckasegee were known as Ani'-Kitu'hwagi;, and the name was frequently extended to include the whole tribe. For this reason it was adopted in later times as the name of the Cherokee secret organization, commonly known to the whites as the Ketoowah society, pledged to the defense of Cherokee autonomy.

kiyu ga - ground-squirrel; te'wa, flying squirrel' sala'li, gray squirrel.
Klausuna - see Tlanusi'yi.
Knoxville - see Kuwanda'ta lun'yi.
ku! - an introductory explanation, to fix attention, about equivelent to "Now"!

kuku' - "cymbling"; also the "jigger weed", or "pleurisy root" (Asclepias tuberosa). Coco creek of Hiwassee river, and Coker post-office in Monroe county, Tenn. derive their name from this word.

Kulsetsi'yi (abbreviated Kulse'tsi) - "Honey-locust place", from kulse'tsi, honey-locust (Gleditschia) and yi, locative; as the same word, kulse' tsi, is also used for 'sugar', the local name has commonly been rended Sugartown by the traders. The name of several former settlement places in the Old Cherokee country. One was upon Keowee river, near the present Fall creek, in Oconee county, S.C.; another was on Sugartown or Cullasagee (Kulse'tsi) creek, near the present Franklin, in Macon county, N.C.; a third was on Sugartown creek, near the present Morgantown, in Fannin county, Ga.

Kunnesee - see Tsi'yu-gunsi'ni.

Kunstutsi'yi - "Sassafras place", from kunstu'tsi, sassafras, and yi, locative. A gap in the Great Smoky range, about the head of Noland creek, on the line between North Carolina and Sevier county, Tenn.

kunu'nu (abbreviated kunun') - the bullfrog; the name is probably an onomatope; the common green frog is wala'si and there are also names for several other varieties of frogs and toads.

Kusa' - Coosa creek, an upper tributary of Nottely river, near Blairsville, Union county, Ga. The change of accent from Ku'sa (Creek, see Ani'-Ku'sa) makes it locative.

Ku'sa-nunna'hi - "Creek trail", from Ku'sa, Creek Indian, and Nunna'hi, path, trail; cf. Suwa'li-nunna'hi. A former important Cherokee settlement, including also a number of Creeks and Shawano, where the trail from the Ohio region to the creek country crossed Tennessee river, at the present Guntersville, in Marshall county, Ala. It was known to the traders as Creek-path, and later as Gunter's landing, from a Cherokee mixed-blood named Gunter.

Ku'swati'yi (abbreviated Ku'saweti') - "Old Creek place", from Ku'sa, a Creek Indian (plural Ani'ku'sa), uwe'ti, old, and yi, locative. Coosawatee, an important Cherokee settlement formerly on the lower part of Coosawatee river, in Gordon county, Ga. In one document the name appears, by error, Tensawattee.

Kuwa'hi - "Mulberry place", from ku'wa, mulberry tree, and hi, locative. Clingman's dome, about the head of Deep creek, on the Great Smoky range, between Swain county, N.C. and Sevier county, Tenn. See also Keowee.

Kuwanda'ta lun'yi (abbreviated Kuwanda'ta lun) - "Mulberry grove", from ku'wa, mulberry; the Cherokee name for the present site of Knoxville, in Knox county, Tennessee.

Kwa'li, Kwalun'yi - Qualla or Quallatown, the former agency for the East Cherokee and now a post-office station, just outside the reservation, on a branch of the Soco creek, in Jackson county, N.C. It is the Cherokee form for "Polly", and the station was so-called from an old woman of that name who formerly lived near by; Kwa'li, "Polly" Kwalun'yi, "Polly's place". The reservation is locally known as the Qualla boundary.

Kwandaya'hu - see da'liksta'.

La'lu - the jar-fly (Cicada auletes).
Little Carpenter, Little Cornplanter - see Ata'-gul kalu'.
Long-hair - a Cherokee chief living with his band in Ohio in 1795. The literal Cherokee translation of "Long-hari" is Gitlu'gunahi'ta, but it is not certain that the English name is a correct rendering of the Indian form. Cf. Ani'-Gila'hi.
Long Island - see Amaye li-gunahi'ta.
Lookout Mountain Town - see Danda'ganu'.
Lowrey, Major George - see Agili.

Mayes, J. B.- see Tsa'wa Gak'ski.
Memphis - see Tsuda'talesun'yi.
Mialaquo - see Amaye l-e'gwa.
Moses - see Wa'si.
Moytoy - a Cherokee chief recognized by the English as "emporer" in 1730. Both the correct form and the meaning of the name are uncertain; the name occurs again as Moyatoy in a document of 1793; a boy upon the East Cherokee reservation a few years ago bore the name of Ma'tayi', for which no meaning can be found or given.
Mussel Shoals - see Dagu'nahi.

Nacoochee - Na'gu tsi.

Na'duli - known to the whites as Nottely. A former Cherokee settlement on Nottely river, close to the Georgia line, in Cherokee county N.C. The name cannot be translated and has not any connection with na tu li, "spicewood".

Na'gu tsi - a former important Settlement about the junction of Soquee and Santee rivers, in Nacoochee valley, at the head of Chattahoochee river, in Habersham county, Ga. The meaning of the word is lost and it is doubtful if it be of Cherokee origin. It may have some connection with the name of the Uchee Indians. The great mound farther up Sautee river, in White county, was known to the Cherokee as Itsa'ti.

nakwisi' (abbreviated nakusi) - star; also the meadow lark.

nakwisi usdi' - "little star"; the puffball fungus (Lycoperdon?)

Na'na-tlu gun'yi (abbreviated Na'na-tlu gun' or Na'na-tsu gun') - "Spruce-tree place", from na'na, spruce, tlu gun'i, or tsu gun'i, a tree (standing) and yi, locative. 1. A traditional ancient Cherokee settlement on the site of Jonesboro, Washington county, Tenn. The name of Nolichucky river is probably a corruption of the same word. 2. Nan-tsu gun, a place on Nottely river, close to its junction with Hiwassee, in Cherokee county, N.C.

Nanehi - see Nunne'hi.
Nantahala - see Nundaye' li.
Nashville - see Dagu'nawe'lahi.
Natchez - see Ani'-Na'tsi.

Nats-asun'tlùnyi (abbreviated Na ts-asun'tlun) - "Pine-footing place" from na'tsi, pine, asun'tli or asuntlun'i, footlog, bridge, and yi, locative. A former Cherokee settlement, commonly known as Pinelog, on the creek of the same name, in Bartow county, Georgia.

Na'tsi - pine.
na'tsiku' - "I eat it" (tsi'kiu', "I am eating").
na tu li - spicewood (Lindera benzoin).
Naye'hi - see Nunne'hi.
Nayunuwi - see Nunyunu'wi.

nehanduyanu' - a song form for nehadu'yanu', an irregular verbal form denoting "conceived in the womb".

Nellawgitehi - given as the name of a Lower Cherokee chief in 1684. The correct form and meaning are both uncertain, but the final part seems to be the common suffix didi', "killer". Cf. Ta'gwadiahi'.

Nenetooyah - see Iskagua.
Nequassee - see Ki'kwasi'.
Nettecawaw - see Gatayu'sti,
Nettle-carrier - see Tale'danigi'ski.
New Echota, Newtown - see Itsa'ti.
Nickajack - see Nikutse'gi.

Nicotani - see Ani'-Kuta'ni.

Nikwasi' (or Nikwsi') - an important ancient settlement on Little Tennessee river, where now is the town of Franklin, in Macon county, N.C. A large mound marks the site of the town-house. The name appears in old documents as Nequassee, Nucassee, etc. Its meaning is lost.

Nikutse'gi (also Nukatse'gi, Nikwatse'gi, or abbreviated Nikutseg') - Nickajack, an important Cherokee settlement, about 1790, on the south bank of Tennessee river, at the entrance of Nickajack creek, in Marion county, Tenn. One of the Five Chickamauga towns (see Tsikama'gi). The meaning of the word is lost and it is probably not of Cherokee origin, although it occurs also in the tribe as a man's name. In the corrupted form of "Nigger Jack", it occurs also as the name of a creek of Cullasaja river above Franklin, in Macon county, N.C.

Nilaque - see Amaye l-e'gwa
Nolichucky - see Na'na-tlugun'yi.

Notchy - a creek entering Tellico river, in Monroe county, Tenn. The name evidently refers to Natchez Indian refugees, who formerly lived in the vicinity (see Ani'-Na'tsi).

Nottely - see Na'duli'.

nu - used as a suffix to denote "and", or "also"; u'le-nu, "and also" na'ski-nu', "and that", "that also".

Nucassee - see Nikwasi'.

nu'dunnelu' - he did so and so; an irregular form apparently connected with the archaic forms adunni'ga, "it has just become so", and udunnu, "it is matured, or finished".

Nugatsa'ni - a ridge sloping down to Oconaluftee river, below Cherokee, in Swain county, N.C. An archaic form denoting a high ridge with a long gradual slope.

nu'na - potato; the name was originally applied to the wild "pig potato" (Phaseolus), now distinguished as mu'na igatehi, "swamp-dwelling potato".

nun'da - the sun or moon, distinguished as unu'da' ige'hi, nun'da' "dwelling in the day", and nun'da' sunna' yehi, nun'da "dwelling in the night". In the sacred formulas the moon is sometimes called Ge yagu'ga, or Su'talidihi, "six-keller", names apparently founded upon myths now lost.

nun'da'-dikani - a rare bird formerly seen occasionally in the Old Cherokee country, possibley the little blue heron (Floridus cerulea). The name seems to mean "it looks at the sun", i.e., "sun-gazer", from nun'da', sun, and da'ka na' or detsi'ka na, "I am looking at it".

Nundawe'gi - see Ani'-Nundawe'gi.

Nun'daye li - "Middle (i.e., Noonday) sun", from nunda', sen and aye li, middle; a former Cherokee settlement on Nantahala river, near the present Jarrett station, in Macon county, N.C., so-called from the high cliffs which shut the view of the sun until nearly noon. The name appears also as Nantahala, Nantiyallee, Nuntialla, etc. It appears to have been applied properly only to the point on the river where the cliffs are most perpendicular, while the settlement itself was known as Kanu'gu la'yi, "Briertown", q.v.

Nun'dagun'yi, Nunda'yi - the Sun land, or east; from nun'da', sun, and yi, locative. Used in the sacred formulas instead of di'galungun'yi, "where it rises", the common word.

nun'gi - four. See hi'ski.
nungu la - see kanugu' ga.
nunna'hi (abbreviated nunna) - a parth, trail or road.

Nunna'hi-dihi' (abbreviated Nun'na-dihi') - "Path-killer", literally, "he kills (habitually) in the path", from nun'naki, path, and ahihi', "he kills" (habitually); "I am killing" tsi'ihu'. A principal chief, about the year 1813. Major John Ridge was originally known by the same name, but afterward took the name, Gunun'da le'gi, "One who follows the ridge", which the whites made simply ridge.

Nunna'hi-tsune'ga (abbreviated Nunna'tsune'ga) - "white-path" from nunna'hi, path, and tsune'ga, plural of une'ga, white; the form is the plural, as is common in Indian names, and has probably a symbolic reference to the "white" or peaceful paths spoken of in the opening invocation at the green corn dance. A noted chief who led the consevative party about 1828.

Nunne'hi (also Gunne'hi; singular Naye'hi) - a race of invisible spirit people. The name is derived from the verb e'hu', "I dwell, I live", e'hi', "I dwell habitually", and may be rendered "dwellers anywhere", or "those who live anywhere", but implies having always been there, i.e., "Immortals". It has been spelled Nanehi and Nuhnayie by different writers. The singular form Naye'hi occurs also as a personal name, about equivalent to Eda'hi, "One who goes about".

Nuniyu'sti - "potato-like, from nu'na, potato, and iyu'sti, like. A flowering vine with tuberous root somewhat resembling the potato.

Nunyu' - rock, stone.

Nunyu-gunwam'ski - "Rock that talks", from nunyu', rock, and tsiwa'nihu, "I am talking". A rock from which Talking-rock creek of Coosawatee river, in Georgia derives its name.

Nun'yunu'wi - contracted from Nunyu-unu'wi. "Stoneclad", from nunyu, rock and agwaun'wa, "I am clothed or covered". A mythic monster, invulnerable by reason of his stony skin, The name is also applied sometimes to the stinging ant, dasuntali atatsunski, q.v. It has also been spelled Nayunuwi.

Nunyu'-tlu guni (or Nunyu-tsu gun'i) - "Tree-rock", a notable rock on Hiwassee river, just within the N.C. line.

Nunyu'-twi'ska -"Slick rock", from nunyu', rock, and twiska, smooth, slick; the form remains unchanged for the locative. 1. Slick-rock creek, entering Little Tennessee river just within the west line of Graham county, N.C. 2. A place at the extreme head of Brasstown creek of Hiwassee river, in Towns county, Ga.

Ocoee - see Uwaga'hi.
Oconaluftee - see Egwanul ti.
Oconee - see Ukwu'nu.
Oconostota - see Agansta'ta.
Old Tassel - see Utsi'dsata'.
Ooltewah - see Ultiwa'i.
Oostinaleh - see U'stana'li.
Oothealoga - see Uy'gila'gi.
Otacite, Otassite - see Outacity.
Otari, Otariyatiqui - mentioned as a place, apparently on the Cherokee frontier visited by Pardo in 1567. Otari seems to be the Cherokee atari or atali, mountain, but the rest of the word is doubtful.

Ottare - see a'tali.

Owasta - given as the name of a Cherokee chief in 1684; the form cannot be identified.

Ougillogy - see Uy'gila'gi.

Outacity - given in documents as the name or title of a prominent Cherokee chief about 1720. It appears also ad Otacity, Ottassite, Outassatah, Wootassite and Wrosetasatow (!), but the form cannot be identified, although it seems to contain the personal name suffix diha', "killer". Timberlake says: "There are some other honorary titles among them, conferred in reward of great actions; the first of which is Outacity or "Man-killer", and the second Colona or "The Raven".

Outassatah - see Outacity.
Owassa - see Ayuhwa'si.

Paint-town - see Ani'-Wa'dihi'.
Path-killer - see Nuna'hi-dihi'.
Phoenix, Cherokee - see Tsule'hisanun'hi.
Pigeon River - see Wayi.
Pine Indians - see Ani'-Na'tsi.
Pinelog - see Na ts-asun'tlunyi.

Qualatchee - a former Cherokee settlement on the head-waters of the Chattahoochee river in Georgia; another of the same name was upon the waters of Keowee river in S.C. The correct form is unknown.

Qualla - see Kwali.
Quaxule - see Guaxule
Quinahaqui - a place, possibly in the Cherokee country, visited by Pardo in 1567. The form cannot be identified.
Quoneashee - see Tlanusi'yi.

Rattlesnake Springs - see Utsanatiyi.
Rattling-Gourd - see Ganseti.
Raventown - see Kalanun'yi.
Red Clay - see Elawa'diyi.
Reid, Jesse - see Tse'si-Ska'tsi.
Ridge, Major John - see Nunna'hi-dihi'.
Ross, John - see Gu'wisugwi'.
Ross' Landing - see Tsatanu'gi.

Sadayi' - a feminine name, the proper name of the woman known to the whites as Annie Ax; it cannot be translated.

Sagwa'hi, or Sagwun'yi - "One place", from sa'gwu, one, and hi or yi, locative. Soco creek of Oconaluftee river, on the East Cherokee reservation, in Jackson county, N.C. No satisfactory reason is given for the name, which has its parallel in Tsaska'hi, "Thirty place", a local name in Cherokee county, N.C.

sa'gwalt' - horse; from asagwalihu, a pack or burden, asagwal lu'; "there is a pack on him".

sa'gwali digu'lahahi'ta - mule; literally "long-eared horse", from sa'gwali, horse, and digu'lanahi'ta, g.v.

saikwa'yi - bear-grass (Erynigium) also the greensnake, on account of a fancied resemblance; the name of a former Cherokee settlement on Sallacoa creek of Coosawatee river, in Gordon county, Ga.

Sakwi'yi (or Suki'yi; abbreviated Sakwi' or Suki') - a former settlement on Soquee river, a head stream of Chattahoochee, near Clarksville, Habersham county, Ga. Also written Saukee and Sookee. The name has lost its meaning.

sala'li - squirrel; the common gray squirrel; other varieties are kiyu ga, the ground squirrel, and tewa, the flying squirrel; Sala'li was also the name of an East Cherokee inventor who died a few years ago; Sala'lani'ta' "young-squirrels", is a masculine personal name on the reservation.

saligu'gi - turtle, the common water turtle; soft-shell turtle, u'lana'wa; land tortoise or terrapin, tuksi'.

Sa'nigila'gi (abbreviated San gila'gi) - Whiteside mountain, a prominent peak of the Blue Ridge, southeast from Franklin, Macon county, N.C. It is connected with the tradition of Utlun'ta.

Santeetla - the present map name of a creek joining Cheiwa river in Graham county, N.C., and of a smaller tributary (Little Santeetla). The name is not recognized or understood by the Cherokee, who insist that it was given by the Whites. Little Santeetla is known to the Cherokee as Tsundanili'yi, q.v., the modern Santeetla creek is commonly known as Nayu'higeyun'i, "Sand-place stream", from :nuyu'hi, "Sand-place (nayu, sand) a former settlement just above the junction of the two creeks.

Sara - see Ani'-Suwa'li.
Sa'sa' - goose; an onomatope.
Sautee - see Itsa'ti.

Savannah - the popular name of this river is derived from that of the Shawano Indians, formerly living upon its middle course, and known to the Cherokee as Ani'Swanu'gi, q.v., to the Creeks as Savanuka, and to some of the coast tribes of Carolina as Savanna. In old documents the river is also called Isundiga, from Isu'nigu or Seneca, q.v., an important former Cherokee settlement upon its upper waters.

Sawanu'gi - "Shawano" (Indian); a masculine personal name upon the East Cherokee reservation and prominent in the history of the band. See Ani'-Sawanu'gi and Ka'lahu'.

Sawnook - see Ka'lahu'

Schwate'yi - "Hornet place", from se'hwatu, hornet, and yi, locative. Cheowa Maximum and Swim Bald, adjoining bald peaks at the head of Cheowa river, Graham county, N.C.

selu - corn; sometimes called in the sacred formulas Agawe'la, "The Old Woman".

sel-utsi' - (for selu-utsi)"corn's mother", from selu, corn, and utsi', his mother, (etsi' or agitsi', my mother); the bead-corn or Job's tears (Coix lacryma).

Seneca - see Ani'-Nun'dawe'gi (Seneca tribe), and Isu'nigu. (Seneca town)
Sequatchee - see Si'gwetsi'.
Sequoya - see Sikwayi.

Setsi - a mound and traditional Cherokee settlement on the south side of the Valley river, about three miles below Valleytown, in Cherokee county, N.C., the name has lost its meaning. A settlement called Tasetsi (Tassetchie in some old documents) existed on the extreme head of Hiwassee river, in Towns county, Ga.

Sevier - see Tsan'-usdi'.
Shoe-boots - see Da'si giya'gi
Shooting creek - see Du'stayalun'yi.

Si'gwetsi' - a traditional Cherokee settlement on the south bank of French Broad river, not far from Knoxville, Knox county, Tenn. Near by was the quarry from which it is said the stone for the white peace pipes was obtained. Swqatchee, the name of the river below Chattanooga, in Tenn., is probably a corruption of the same word.

si'dwa - hog; originally the name of the opossum, now distinguished as si'kwa utset'sti, q.v.

si'kwa utset'sti - opossum; literally "grinning hog", from si'kwa, hog, and utset'sti, "he grins" (habitually).

Sikwa'yi - a masculine name, commonly written Sequoya, made famous as that of the inventor of the Cherokee alphabet. The name which cannot be translated, is still in use upon the East Cherokee reservation.

Sikwi'a - a masculine name, the Cherokee corruptioh for Sevier. See also Tsan-usdi'.

sinnawah - see tla'nuwa.

Si'tiku' (or su'tagu', in dialectic form) - a former Cherokee settlement on Littel Tennessee river, at the entrance of Citico creek, in Monroe county, Tenn. The name, which cannot be translated, is commonly spelled Citico, but appears also as Sattiquo, Settico, Settacoo, Sette, Sittiquo, etc.

siyu' - see a'siyu'.

skinta' - for skin'tagu', understood to mean "put a new tooth into my jaw". The word cannot be analyzed, but is derived from gantka' (ganta ga in a dialectic form) a tooth in place; a tooth detached is kayu ga.

Skwan'-digu gun'yi (for askwan'-digu gun'yi) - "where the Spaniard is in the water" (or other liquid). A place on Upper Soco creek, on the reservation in Jackson county, N.C.

Slick Rock - see Nunyu'tawi'ska.
Smith, N.J. - see Tsaladihi'.
Snowbird - see Tuti'yi.
Soco creek - see Sagwa'hi.
Soco Gap - see Ahalu'na.
Soquee - see Sakwi'yi.
Spray,H.W. - see Wilsini'
spring-frog - see Du'stu'
Standing Indian - see Yunwi-tsullenun'yi
Stand Watie - see De'gataga
Stekoa - see Stika'yi
ste'tsi - "your daughter", literally, "your offspring"; agwe'tsi, "my offspring"; uwe'tsi, "his offspring"; to distinguish sex it is necessary to add asga'ya. "man" or age'hya. "woman".

Stika'yi - (variously spelled Stecoe, Steecoy, Stekoah, Stickoey, etc.) - the anem of several former Cherokee settlements: L. Sticoa creek, near Clayton, Babun county, Ga.; 2. on Tuckasegee river at the old Thomas homestead just above the present Whittier, in Swain county, N.C.; 3 on Stekoa creek of Little Tennessee river, a few miles below the junction of Nantahala, in Graham county, N.C.

Stringfield - see Tlage'si.

stugi'sti, stui'ski - a key.
Suck, The - see Un'tiguhi'
Sugartown - see Kulse'tsi'yi
su'nawa' - see tla'nuwa
sunestla'ta - "split noses"; see tsunu liyu' sunestla'ta.
sungi - mink; also onion; the name seems to refer to a smell, the various minks are called generically, gaw sun'gi.
Suki'yi - another form of Sakwi'yi, q.v.
su'li' - buzzard; the Creek name is the same
Sun Land - see Nunda'yi
su'sa'-sai' - an unmeaning song refrain
su'talidihi' - see nun'da'
Suwa'li-nunna'hi - (abreviated Suwa'li-nunna'hi) "Suwali train", the proper name for the gap at the head of Swannanoa (from Suwa'li-Nun'na') river east of Asheville, in Buncombe co., N.C.

Suwan'ni - a former Cherokee settlement on Chattahoochee river, about the present Suwanee, in Gwinnett county, Ga. The name has no meaning in the Cherokee language and is said to be of Creek origin.

Suye'ta - the "Chosen One", from asuye'ta, "He is chosen", gasu'yeu, "I am choosing"; tje same form, suye'ta, could also mean mixed, from gasu'yahu, "I am mixing it". A masculine name at present borne by a prominent ex-chief and informant unpon the East Cherokee reservation.

Swannanoa - see Wuwa'li-nunna'hi
Swim Bald - see Sehwate'yi
Swimmer - see Ayun'ini

tadeya'statakuhi' "we shall see each other"
Tae-keo-ge - see Ta ski'gi
ta'gu - the June-bug (Allorhina nitida), also called tuyadiskalaw tsiski, "one who keeps fire under the beans".
Ta'gwa - see Ani'ta'gwa

Ta'gwadihi' - (abbreviated Ta;gwadi') "Catawba-killer from Ata'gwa or Ta'gwa, Cattawba Indian, and dihihi', "he kills them" (habitually), from tsi'ihu', "I kill". An old masculine name, still in use on the East Cherokee reservation. It was the proper name of the chief known to the whites about 1790 as "The Glass", from a confusion of this name with adake'ti, glass or mirror.

Tagwa'hi -"Catawba place", from Ata'gwa or Ta'gwa, Catawba Indian, and hi, locative. A na,e occuring in several places in the old Cherokee country. A settlement of this name, known to the whites as Toccoa, was upon Toccoa creek, east of Clarksville, in Habersham county, Ga.; another was upon Toccoa or Ocoee river, about the present Toccoa, in Fannin county, Ga.; a third may have been on Persimmon creek, which is known to the Cherokee as Tagwa'hi, and enters Hiwassee river some distance below Murphy, in Cherokee county, N.C.

Tahkeyostee - see Unta'kiyasti'yi
Tahlequah - see Talikwa'

Tahchee - see Talikwa'
Takatoka - see De'gata'ga
ta'ladu' (abbreviated taldu') - twelve, from ta'li, two. Cf. tala'tu, cricket.
Ta'lasi' - a former Cherokee settlement on Little Tennessee river about Talassee ford, in Blount county, Tenn. The name has lost its meaning.
Talassee - see Ta'lasi'
Tala'tu - cricket; sometimes also called dita'staye'ski (q.v.) "the barber", Cf. ta'ladu', twelve.

Tale'danigi'ski - (Utale'danigi'si in a dialectic form) variously rendered by the whites "Hemp-carrier","Nettle-carrier" or flax-toter, from tael'ta or utale'ta, flax (linum) or richweed (Pilea pumila), and danigi'ski, "he carries them" (habitually). A former prominent chief on Valley river, in Cherokee county, N.C.

Talihina - given as the naome of the Cherokee wife of Samuel Houston, the form cannot be identified.

Talikwa' (commonly written Tellico, Teliquo or, in the Indian Territory, Tahlequah) - the name of several Cherokee settlements at different periods, viz. 1. Great Tellico, at Tellico Plains, on Tellico river, in Monroe County, Tenn., 2. Little Tellico, on Tellico creek of Little Tennessee river, about ten miles below Franklin, Macon County, N.C. 3. a town on Valley river, about five miles above Murphy, in Cherokee county, N.C. 4. Tahlequah, established as the capital of the Cherokee Nation, Ind. Ter., kn 1839. The meaning of the name is lost.

Tali'wa - the site of a traditional battle between the Cherokee and Creeks about 1755, on Mountain (?) creek of Etowah river in upper Georgia. Probably not a Cherokee but a Creek name from the Creek ta;lua or ita'lua, town.

Talking-rock - see Nunyu-gunwani'ski
Tallulah - see Talulu'
Tal-tsu'ska' - "Two heads", from ta'li, two and tsu'ska', plural of uska' (his) head. A Cherokee chief about the year 1800, known to the whites as Doublehead.
taluli - jregnant; whence aluli' (she is) "a mother", said of a woman.

Talulu' (commonly Tallulah, and appearing in old documents, from the Lower dialect, as Taruraw, Toruro, Turoree, etc.) a name occuring in two or more places in the old Cherokee country, viz,; 1. An ancient settlement on the upper part of Tallulah river, in Rabun county, Georgia; 2. a town on Tallulah creek of Cheowa river, in Graham county, N.C. The word is of uncertain etymology. The dulu'si frog is said to cry talulu'. The noted falls upon Tallulah river are known to the Cherokee as Ugun'yu, q.v.

Taluntiski - see Ata'lunti'ski.

Tama'li - a name, commonly written Tomotley or Tomatola, occuring in at least two places in the old Cherokee country, viz.; 1. On Valley river, a few miles above Murphy, about the present Tomatola, in Cherokee county, N.C. 2. On Little Teennessee river, about Tomotley ford, a few miles above Tellico river, in Monroe county, Tenn. The name cannot be translated, and may be of and may be of Creek origin, as that tribe had a town of the same name upon the lower Chattahoochee river.

Tanasi' - a name which cannot be analyzed, commonly spelled Tennessee, occurring in several places in the old Cherokee country, viz.; 1. On Little Tennessee river about half-way between Citico and Toco creeks, in Monroe county, Tenn. 2. "Old Tennessee town", on Hiwassee river, a short distance above the junction of Ocoee, in Polk county, Tenn. 3. On Tennessee creek, a head-stream of Tuckasegee river, in Jackson county, N.C. Tanasqui, visited by Pardo in 1567, may have been another place of the same name.

Tanasqui - see Tanasi'

Ta'ski'gi - (abbreviated from Ta'skigi'yi or Da'skigi'yi, the locative yi being commonly omitted). a name variously written Tae-keo-ge (misprint) Tas quiqui, Teeskege, Tuscagee, Tuskegee, etc., devised from that of a foreign tribe incorporated with the Cherokee, and occurring as a local name both in the Cherokee and in the Creek country. 1. The principal settlement of this name was on Little Tennessee river, just above the junction of Tellico in Monroe county, Tenn., 2. Another was on the north bank of Tennessee river just below Chattanooga, Tenn., 3. Another may have been on Tuskegee creek of Little Tennessee river, near Robbinsville, Graham County, N.C.

Tasquiqui - see Ta'ski'gi
Tassel, Old - see Utsi'dsata'
Tatsi'- "Dutch", also written Tahchee, a western Cherokee chief about 1830.
Tatsu'hwa - the redbird
tawa'li - punk
Tawa'li-ukwanun'ti - "Punk-plugged-in", from tawa'li, punk; The Cherokee name of a traditional Shawano chief.
tawi'ski, tawi'skage - smooth, slick
Tawi'skala - "Flint"; a Cherokee supernatural, the personification of the rock flint; tawi'skalun'ti, tawi'skala, flint, from tawi'ska, smooth, slick; cf. Iroquois Tawiskaron.
Tayunksi - a traditional western tribe; the name cannot be analyzed.
Tellico - see Talikwa'
telun'lati - the summer grape (Vitis aestivalis)
Tenaswattee - see Ku'saweti'yi
Terrapin - see Tuksi'
tewa - a flying squirrel; sala'li, gray squirrel; kiyu ga, ground squirrel
Thomas, W. H. - see Wil-usdi'
Tikwali'tsi - a name occurring in several places in the old Cherokee country, viz.: 1. Tuckalegee creek, a tributary of War-Woman creek, east of Clayton, in Rabun county, Ga; 2. The Tiliwali'tsi of the story, an important town on Tuckasegee river at the present Bryson city, in Swain county, N.C. 3. Tuckalechee cove, on Little river, in Blount county, Tenn. which probably preserves the aboriginal local name. The name appears in old documents as Tuckarechee (Lower dialect) and Tuckalegee, and must not be confounded with Tsiksi'tsi or Tuckasegee. It cannot be translated
Timossy - see Tomassee.
Tlage'si - "Field"; the Cherokee name for Lt. Col. W.W. Stringfield, of Waynesville, N.C. one of the officers of the Cherokee contingent in the Thomas Legion. It is an abbreviated rendering of his proper name.

tlage'situn' - a song form for tlage'sia-stun'i, "on the edge of the field", from a stream.
tla'meha - bet (dialectic forms, tsa'meba, tsa'weha)
tlanu'si' - leech (dialectic form, tsanu'si')

Tlanusi'yi - (abbreviated Tlanusi') "Leech place", former important settlement at the junction of Hiwassee and Valley river, the present site of Murphy, in Cherokee county, N.C.; also a point on Nottely river, a few miles distant, in the same county. The name appears also as Clennuse, Klausuna, Quoneashee.

tla'nuwa - (dialetic forms, tsa'nuwa', su'nawa',"sinnawah" - a mystic hawk
tla'nuwa'usdi - "little tla'nuwa'"; probably the goshawk (Astur atricapillus)

Tla'nuwa'atsi Yelun'isun'yi - "where the Tla;nuwa cut it up", from tla'nuwa', q.v., and tsiyelun'isku', an archaic form for tsigunilun'isku', "I am cutting it up". A place on Little Tennessee river, nearly opposite the entrance of Citico creek, in Blount county, Tenn.

Tla'nuwa'i - "Tla'nuwa place", a cave on the north side of Tennessee river, a short distance below the entrance of Citico creek, in Blount county, Tenn.

tlayku' - jau (dialectic form, tsayku')
tlunti'sti - the pheasant (Bonasa umbella) called locally grouse or partridge
tluntu'tsi - panther (dialectic form, tsuntu'ski)
tlutlu' - the martin bird (dialectic form, tsutsu')
Tocax - a place, apparently in the Cherokee country, visited by Pardo in 1567. It may possibley have a connection with Toxaway (see Duksa'i) or Toccoa (see Tagwa'hi)
Toccoa - see Tagwa'hi
Toco - see Dakwa'i
Tollunteeskee - see Ata'lunti'ski

Tomassee - (also written Timossy and Tymahse) the name of two or more former Cherokee settlements, viz. 1. On Tomassee creek of Keowee river, in Oconee county, S C. 2, On Little Tennessee river, near the entrance of Burningtown creek, in Macon county, N.C. The correct form and interpretation are unknown

Tomatola, Tomotley - see Tama'li
Tooantuh - see Du'stu'
Toogelah - see Dugilu'yi
Toqua - see Dakwa'i
Toxaway - see Dukas'i
Track Rock gap - see Datsu'nalasgun'yi
Tsaga'si - a Cherokee sprite
tsa'gi - upstream, up the road; the converse of ge'i
Tsaiyi' - see Untsaiyi'

Tsa'ladihi' - Chief H. J. Smith of the East Cherokee. The name might be rendered "Charley-killer", from Tsali, "Charley", and dihi', "killer" (in composition), but is really a Cherokee equivalent for Jarrett (Tsaladi'), his middle name, by which he was frequently addressed. Cf. Tagwadihi

tsal-agayun'li - "old tobacco", from tsalu, tobacco, and agayun'li or

agayun'lige, old, ancient; the Nicoliana rustica or wild tobacco.
Tsa'lagi'- (Tsa'ragi' in Lower dialect), the correct form of Cherokee
Tsa'li - Charley; a Cherokee shot for resisting the troops at the time of removal.
tsaliyu'sti - "tobacco-like", from tsalu, tobacco, and iyu'sti, like; a generic name for the cardinal-flower, mullein and related species.

tsalu or tsalun - (in the Lower dialect, tsaru), tobacco; by comparison with kindred forms the other Iroquoian dialects the meaning "fire to hold in the mouth" seems to be indicated. Lanman spells it tso-lungh.

tsameha - see tla'meha
tsa'nadiska' - for trandiskai', "they say"
tsana'seha'i'- "so they say", "they say about him"
tsane'ni - the scorpion lizard; also called gi'ga-danegi'ski, q.v.
Tsani - John
Tsantawu' - a masculine name which cannot be analyzed

Tsan-uga'sita - "Sour John"; the Cherokee name for General John Sevier, and also the boy name of the Chief John Ross, afterward known as Gu'wisguwi',q.v. Sikwi'a, a Cherokee attempt at "Sevier", is a masculine name upon the East Cherokee reservation.

tsanu'si - see tlanu'si
tsa'nuwa' - see tla'nuwa'
Tsa'ragi' - Cherokee
tsaru - see tsalu
Tsasta'wi - a noted hunter formerly living upon Nanatahala river, in Macon county, N.C.; the meaning of the name is doubtful

Tsatanu'gi - (commonly spelled Chattanooga), the Cherokee name for some point upon the creek entering Tennessee river at the city of Chattanooga, in Hamilton county, Tenn. It has no meaning in the Cherokee language and appears to be of foreign origin. The ancient name for the site of the present city is Atla'nuwa, q.v. Before the establishment of the town the place was known to the whites as Ross; landing, from a store kept there by Lewis Ross, brother of the chief, John Ross.

Tsatu'gi - (commonly written Chattooga or Chatuga), a name occurring in two or three places in the old Cherokee country, but apparently of foreign origin. Possible Cherokee derivations are from words signifying respectively "he drank by sips", from gatu'gia', "I sip", or "he has crossed the stream and come out upon the other side", from gatu'gi, "I have crossed", etc. An ancient settlement of this name was on Chattooga river, a head-stream of Savannah river, on the boundary between South Carolina and Georgia; another appears to have been on upper Tellico river, in Monroe county, Tenn.; another may have been on Chattooga river, a tributary of the Coosa, in northwestern Ga.

Tsa'wa Gakski - Joe Smoker, from Tsawa, "Joe" and gakski, "Smoker", from ga'gisku, "I am smoking". The Cherokee name for Chief Joel B. Mayes, of the Cherokee Nation west.

Tsawa'si - a Cherokee sprite.

tsa'weha - see tla'meha
tsay ku' - see tlay ku'
Tsek'sini' - a Cherokee form for the name of Gen. Andrew Jackson.
Tsesa'ni - Jessan, probably a derivative from Jesse; a masculine name upon the East Cherokee reservation.
Tse'si-Ska'tsi - "Scotch Jesse"; Jesse Reid, present chief of the East Cherokee, so-called because of mixed Scotch ancestry.
tsetsani'li - "thy two elder brothers" (male speaking); "my elder brother" (male speaking), ungini'li
Tsgagun'yi - "Insect place", from tsgaya, insect, and yi, locative. A cave in the ridge eastward from Franklin, in Macon county, N.C.
tsgaya - insect, worm, etc.

Tsikama'gi - a name, commonly spelled Chickamauga, occuring in at least two places in the old Cherokee country, which has lost any meaning in Cherokee and appears to be of foreign origin. It is applied to a small creek at the head of Chattahoochee river, in White county, Ga., and also to the district about the southern (not the northern) Chickamauga creek, coming into Tennessee river, a few miles above Chattanooga, in Hamilton county, Tenn. In 1777, the more hostile portion of the Cherokee withdrew from the rest of the tribe, and established here a large settlement, from which they removed about five years later to settle lower down the Tennessee, in what were known as the Chickamauga towns or Five Lower towns.

tsiki' - a word which renders emphatic that which it follows; as a'stu, "very good", astu' tsiki, "best of all"
tsikiki' - the katydid; the name is an onomatope
tsi'kilili'- the Carolina chickadee (Parus carolinensis), the name is an onomatope

Tsiksi'tsi - (Tukst'tsi is dialectic form; commonly written Tuckasegee) 1. A former Cherokee settlement about the junction of the two forks of Tuckasegee, above Webster, in Jackson county, N.C. (not to be confounded with Tikwali'tsi, q.v.). 2. A former settlement on a branch of Brasstown creek of Hiwassee river, in Towns county, Ga. The word has lost its meaning

Tsi'nawi - a Cherokee wheelwright, perhaps the first in the Nation to make a spinning-wheel and loom. The name cannot be analyzed.

tsine'u - "I am picking it (something long) up"; in the Lower and Middle dialects, tsinigi'u
tsinigi'u - see tsine'u
tsiska'gili - the large red crawfish; the ordinary crawfish is called tsistu'na
tsi'skwa - bird
tsiskwa'gwa - robin, from tsi'skwa, bird
Tsiskaw'hi - "Bird place", from tsi'skwa, bird, and hi, locative. Birdtown settlement on the East Cherokee reservation, in Swain county, N.C.
tsiskwa'ya - sparrow, literally "principal bird" (i.e., most widely distributed), from tsi'skwa, bird, and ya, a suffix denoting principal or real.
Tsiskwunsdi'adsisti'yi - "where they killed Little-bird", from Tsiskwunsdi, "little birds" (plural form). A place near the head of West Buffalo creek, southeast of Robbinsville, in Graham county, N.C.

Tsilalu'hi - "Sweet-gum place" from tsila'lu', sweet gum (Liquidamabar) and hi, locative. A former settlement on a small branch of Brasstown creek of Hiwassee river, just within the line of Towns county, Ga. The name is incorrectly rendered Gum-log (creek).

Tsistetsi'yi - "Mouse place", from tsistetsi, mouse, and yi, locative. A former settlement on South Mouse creek, of Hiwassee river, in Bradley county, Tenn. The present town of Cleveland, upon the same creek, is known to the Cherokee under the same name.

tsist-ino 'gosto - "rabbit foods" (plural_, from tsi'stu, rabbit, and uni'gisti, plural of agi'sti, food, from tsiyi'giu, "I am eating" (soft food) The wild rose.

Tsistu - rabbit

tsistu'na - crawfish; the large-horned beetle is also so called. The large red crawfish is called tsiska'gili

Tsistu'yi - "Rabbit place" from tsistu, rabbit, and yi, locative. 1. Gregory bald, high peak of the Great Smoky range, eastward from Little Tennessee river, on the boundary between Swain county, N.C. and Blount county, Tenn. 2. A former settlement on the north bank of Hiwassee river at the entrance of Chestua creek, in Polk county, Tenn. The name of Choastea creek of Tugaloo river, in Oconee county, S C. is probably also a corruption from the same word.

Tsiya'hi - "Otter place", from tsiyu, otter, and yi, locate; variously spelled Cheowa, Cheeowhee, Chewohe, Chewe, etc. 1. Aformer settlement on a branch of Keowee river, near the present Cheohee, Oconee county, S.C. 2. A former and still existing Cherokee settlement on Cheowa river, about Robbinsville, in Graham county, N.C. 3. A former settlement in Cades Cove, on Cove Creek, in Blount county, Tenn.

Tsi'yi-gunsi'ni - "he is dragging a canoe", from tsi'yu, canoe (cf. tsi'yu) otter, and gunsi'ni, "he is dragging it". "Dragging Canoe", a prominent leader of the hostile Cherokee in the Revolution. The name appears in documents as Cheucensene and Kunnesee.

Tskil-e'gwa - "Big witch", from atsikili', or tskilu', witch, owl, and e'gwa, big; an old man of the East Cherokee, who died in 1896. Although translated Big-witch by the whites, the name is understood by the Indians to mean Big-owl, having been originally applied to a white man living on the same clearing and noted for his large staring eyes.

tskili' - (contracted from atskili') 1. witch; 2. the dusky-horned owl (Bubo virginianus saturatus).

tskwa'yi - the great white heron or American egret (Herodias egretta).

Tsolungh - see tsalu

Tsuda'ye lun'yi - "Isolated place"; an isolated peak near the head of Cheowa river, northeast of Robbinsville, in Graham county, N.C. The root of the word signifies detached, or isolated, whence Uda'ye lun'yi, the Cherokee outlet, in Ind. Ter.

Tsunda'talesun'yi -"Where pieces fall off", i.e., where the banks are caving in; from adatale'i. "it is falling off", ts, distance prefix, "there", and yi, locative. The Cherokee name for the present site of Memphis, Tenn, overlooking the Mississippi and formerly known as the Chickasaw bluff.

Tsu'dinunti'yi - "Throwing-down place", a former settlement on lower Nantahala river, in Macon county, N.C.

Tsugidu'li ulsgi'sti - (from tsugidu'li, plural of ugiduli, one of the long wing or tail feathers of a bird, and ulsgi'sti or ulsgi'ta, a dance), the feather or eagle dance.

Tsukilunnun'yi - "Where he alighted"; two bald spots on a mountain at the head of a Little Snowbird creek, near Robbinsville, Graham county, N.C.
tsungili'si - plural of ungili'si, q.v.
tsungini'si - plural of ungini'si, q.v.
tsunkina'tli - "my younger brothers" (male speaking)
tsunkita' -"my younger brothers" (female speaking)
tsula - fox; cf. tsula, kingfisher and tlutlu' or tsulsu', martin. The black fox is ina'li. The Creek word for fox is chula.
tsula'ski - alligator, the name is of uncertain etymology.

Tsula'sinun'yi - "Footprint place". A place on Tuckasee river, about a mile above Deep creek, in Swain county, N.C.

Tsula'wi - see Tsulunwe'i

Tsule'hisanun'hi - "Resurrected One", from di'gwale' hisanun'hi, "I was resurrected". Literally, "I was down and have risen". Tsa'lagi', Tsule' hisanunhi, the Cherokee title of the newspaper known to the whites as the Cherokee Phoenix. The Cherokee title was devised by Worcester and Boudinot as suggesting the idea of the phoenix of classic fable. The Indian name of the recent "Cherokee Advocate" is Tsa'lagi Asdeli'ski.

Tsul kalu' - "Slanting-eyes", literally "he has them slanting" (or leaning up against something"; the prefix ts makes it a plural form, and the name is understood to refer to the eyes, although the word eye (akta', plural dikta') is not a part of it. Cf. Ata'-Gulkalu'. A mythic giant and ruler of the game. The name has been corrupted to Jutaculla and Tuli-cula. Jutaculla rock and Jutaculla old fields about the head of Tuckasegee river, in Jackson, N.C., take their name from him.

Tsulkalu' tsunegun'yi - see Tsunegun'yi

tsulie'na - the nuthatch (Sitta carolinensis); the word signified literally deaf (a plural form referring to the ear, gule') although no reason is given for such a name.

tsulu - kingfisher Cf, tsula
Tsulunwe'i - (abbreviated Tsulun'we or Tsula'wi, possibly connected with tsulu, kingfisher), Chilhowee creek, a north tributary of Little Tennessee river, in Blount county, Tenn.

Tsundanilti'yi - "where they demanded the debt from him"; a place on Little Santeetal river, west of Robbinsville, in Graham county, N.C. The creek also is commonly known by the same name.

Tsundige'wi - "Closed anuses", literally "they have them closed", understood to refer to the anus; from dige'wi, plural of ge'wi, closed, stopped up, blind; cf. Tsulkalü'; also Gulisge;wi, "Blind, or closed ears", an old personal name.

Tsun'digwun'tski - (contracted from tsun'digwuntsugi, "they have them forked" referring to the peculiar forked tail; cf. Tsulkalu'), a migratory bird which once appeared for a short time upon the East Cherokee reservation, apparently, from the description, the scissortail or swallow-tailed fly-catcher.

Tsunegun'yi - (sometimes called Tsulkalu' Tsunegun'yi), Tennessee Bald, at the extreme head of Tuckasegee river, on the east line of Jackson county, N.C. The name seems to mean "there where it is white", from ts, a prefix indicating distance, une'ga, white and yi, locative.

Tsunil' kalu - the plural form for Tsul kalu, q.v., a traditional giant tribe in the west.

tsunis'tsahi "(those) having topnots or crests", from ustsahû', "having a topknot", ustsahi', "he has a topknot" (habitually)

Tsuniya'tiga - "Naked People", literally. "They are naked there", from uya'tiga, naked (singular), with the prefix ts, indicating distance. A traditional western tribe.

tsun-ka'wi-ye', tsun-sikwa'ya', tsun-tsu'la-ya', tsun-wa'ya-ya' - "I am (tsun or tsi, verbal prefix) a real (ya, ye, noun suffix) deer" (kawi', archaic for a wi'); opposum, si'kwa; fox, tsula; wolf, waya. Archaic song forms.

tsunsdi' - contracted from tsunsdi'ga, the plural of usdi'ga or usdi',small.

Tsunu'lahun'ski - "He tries, but fails" (habitually), from detsinu'lahun'ski (q.v.), "I tried, but failed". A former noted chief among the East Cherokee commonly known to the whites as Junaluska. In early life he was called Gulkala'ski, a name which denote something habitually falling from a leaning position (cf. Ata-gul kalu' and Tsul kalu')

tsunu' liyu'sunestla'ta - "They have split noses" (from agwaliyu', "I have it", and unestlau', "it is cracked" (as a crack made by the sun's heat in a log or in the earth); the initial s makes it refer to the nose, kayasa'.

Tsusgina'i - "the Ghost country", from asgi'na, "ghost", i, locative, and ts, a prefix denoting distance. The land of the dead; it is situated in Usunhi'yi, the Twilight land, in the west.

Tsuta'tsinasun'yi - "Eddy's place". A place on Cheowa river at the mouth of Cochran creek, in Graham county, N.C.

tsutsu' - see tlutlu'
tsuntu'tsi - see tluntu'tsi
tsuwa' - the mud-puppy or water dog (Menopoma or Protonopsis)

Tsuwa'tel'da - a contraction of tsuwa'teldun'yi; the name has lost its meaning. Pilot Knob, north from Brevard, in Transylvania county, N.C.

Tsuwa'-uniytsun'yi - "where the water-dog laughed", from tsuwa', q.v. "water-dog", uniye'tsu, "they laughed", agiyet'sku, "I am laughing" and yi, locative; Tusquittee Bald, near Hayesville, in Clay county, N.C.

Tsuwe'nahi - a traditional hunter, in communication with the invisible people. The name seems to mean "He has them in abundance" an irregular or archaic form for Uwe'nai, "he has abundance", "he is rich", from agwe'nai', "I am rich". As a masculine name it is used as the equivalent of Richard.

Tuckalechee - see Tikwah'tsi
Tuckasegee - see Tsiksi'tsi
Tugaloo - see Dugily'yi
tugalu'- the cry of the dagulku, goose

tugalu'na- a variety of small fish, about four inches long, frequenting the larger streams (from galu'na, a gourd, on account of its long nose)

tuksi' - the terrapin or land tortoise; also the name of a Cherokee chief about the close of the Revolution. Saligu'gi, common turtle; soft-shell turtle, U'lana'wa.

Tuksi'tsi - see Tsiksi'tsi
Tuli-cula - see Tsui'kalu'
tulsku'wa - "he snaps with his head", from uska', head, snapping beetle.
Tuna'i - a traditional warrior and medicine man of old Itsa'ti; the name cannot be analyzed.
Turkeytown - see Gun-di'gaduhun'yi
Turniptown - see U'lunyi
Tuskegee - see Ta'ski'gi
Tusquittee Bald - see Tsuwa'-uniyetsun'yi
Tusquittee creek - see Daskwitun'yi
tu'sti - for tusti'ga, a small bowl; larger jars are called diwa'li and unti'ya
tuti - snowbird
Tuti'yi - "Snowbird place" from tu'ti, snowbird, and yi, locative. Little Snow-brid creek of Cheowa river, in Graham county, N.C.
tu'tsahyesi' - "he will marry you"
tu'ya - bean
tu'ya-diskalaw'sti'ski - see ti'gu
tu'yahusi' - "she will die"
Tymahse - see Tomassee

Uchee - see Ani'-Yu'tsi
uda'hale'yi - "on the sunny side"
uda'i - the baneberry or cohosh vine (Acaea?) The name signifies that the plant has something long hanging from it
udal'li - "(it is) married"; the mistletoe, so-called on account of its parasitic habit.
U'dawagun'ta - "Bald". A bald mountain of the Great Smoky range in Yancy county, N.C., not far from Mount Mitchell.
Udsi'skala - a masculine name.
uga'sita - sour
u'giska' - "he is swallowing it"; from tsikiu', "I am eating"
u'guku' - the hooting or barred owl
ugunste'li (ugúnste'lu in dialect form) - the horny-head fish.
Ugun'yi - Tallulah falls, on the river of that name, northeast from Clarksville, in Habersham county, Ga. The meaning of the name is lost.
Uilata - see U'tlun'ta.

uk-ku'suntsuteti' - "it will twist up one's arm".
Uk-ku'suntsuti' - "Bent-bow-shape"; a comic masculine name.
Uk-kunagi'sti - "it will draw down one's eye".
Uk-kwunagi'ta - "eye-drawn=down"; a comic masculine name.
uksu'hi - the mountain blacksnake or black racer (coluber obsoletus); the name seems to refer to some pecularity of the eye, akta', uksuhha', "he has something lodged in his eye".

Ukte'na - "Keen-eyed (?)" from akta', eye, akta'ti, to examine closely. A mythic great-horned serpent, with a talismanic diadem.

Ukte'na-tsuganun'yi - "where the Uktena got fastened". A spot on Tuckasegee river, about two miles above Bryson City, in Swain county, N.C.

Ukwu'nu (or Ukwu'ni) - a former Cherokee settlement,,commonly known to the whites as Oconee, on Seneca creek, near the present Walhalla, in Oconee county, S. C.

Ula'gu - the mythical original of the yellow-jacket tribe. The word signifies "leader", "boss", or "principal one", and is applied to the first yellow-jacket (d'ska'i) seen in the spring, to a queen bee and to the leader of a working squad.

u'lana'wa - the soft-shell turtle; see also saligu'gi and tuksi'.
ulasu'la - moccasin, shoe
ule' - and; ule'-nu, and also.
ulskwulte'gi - a "pound mill", a self-acting water-mill used in the Cherokee mountains. The name signifies that "it butts with its head". (Uska', head), in allusion to the way in which the pestles work in the mortar. The generic word for mill is dist'sti.

ulstitlu' - literally "it is on his head". The diamond crest on the head of the mythic Uktena serpent. When detached it becomes Ulunsu'ti.

Ultiwa'i - a former Cherokee settlement above the present Ooltewah, on the creek of the same name, in James county, Tenn.

ulunni'ta - domesticated; tame; may be used for persons as well as animals, but not for plants; for cultivated or domesticated plants the adjective is gunutlun'i or gunusun'i.

Ulunsu'ti - "Transparent"; the great talismanic crystal of the Cherokee.
ulun'ta - "it has climbed", from tsilahi', "Iam climbing"; the poison oak.
U'lun'yi - "Tuber place", from U'li', a variety of edible tuber, and yi, locative. A former settlement upon Turniptown (for U'lun'yi) creek, above Ellijay, in Gilmer county, Ga.

Unacala - see Uni'gadihi'
U'nadanti'yi - "Place where they conjured", the name of a gap about three miles east of Webster, in Jackson county, N. C., and now transferred to the town itself.

unade'na - woolly, downy, (in speaking of animals); uwa'nu, wool, down, fur.

u'nahu' - see unahwi'
u'nahi' - heart; in Middle and Lower dialects, unahu'
Unaka - see une'ga and Unicoi.
unatlunwe'hitu - "it has pirals"; a plant (unidentified) used in conjuration.
une'ga - white
une'guhi - "he is (was) mischievous or bad"; tsune'-guhi'yu, "you are very mischievous" (said to a child).
une'gutsatu' - (he is mischievous"; a'gine'gutsatu', "I am mischievous"
Une'lanun'hi - "The Apportioner"; "Iam apportioning", gane'lasku'; "I apportion (habitually), ganelaski. In the scared formulas a title of the Sun God; in the Bible the name of God.
une'stalun - ice
Unicoi - the map name of the Unicoi turnpike, of a gap on the watershed between Chattahoochee and Hiwassee river, in Georgia, and of a county in Tennessee. Probably a corruption of une'ga, white, whence comes also Unaka, the present map anme of a part of the Great Smoky range.

uni'gisti - foods; singular, agi'sti
Uniga'yata'ti'yi- "where they made a fish trap", from uga'yatun'i, fish trap, and yi, locative; a place on Tuckasegee river, at the mouth of Deep creek, near Bryson City, in Swain county, N. C.
Uni'haluna - see Ahalu'na
Unika'wa - the "Town-house dance", so-called because danced inside the town-house.
Une'ga-dihi' - "White-man-killer"; from une'ga, "white", for yun'wune'ga "white person", and dihi', a noun suffix denoting "killer" (he kills them) (habitually). A Cherokee chief, whose name appears on the documents about 1790.

ungida' - "thy two elder brothers" (male speaking)
ungini'li - "my elder brother"
ungini'si (plural, tsungini'si) - "my daughter's child"
u'niskwetu'gi - "they wear a hat", ulskwe'tawa', hat from uska', head. The May apple
unistilun'isti - "they stick on along their whole length"; the generic name for "stickers" and burrs, including the Spanish needle, cockle burr, jimson weed.
uni'tsi - her mother; agitsi', my mother
Uniya'hitun'yi - "where they shot it", from tsiy'ihy'. "I shot" , and yi, locative. A place on Tuckasegee river a short distance above Bryson City, in Swain county, N. C.
Unli'ta - "(He is) long-winded", an archaic form for the regular word, gunli'ta; an old masculine name. A chief about the year 1790, known to the whites as "The Breath"
Untoola - see Dihiyun'dula'
Unta'kiyasti'yi - "Where they race", from takiya'ta, a race, and yi, locative; locally corrupted to Tahkeyostee. The district on the French Broad river, around Asheville, in Buncombe county, N.C. The town itself is known to the Cherokee as Kasdu'yi, "Ashes place", (from kasdu, ashes, and yi, locative), which is intended as a translation of its proper name.

Un'tiguhi' - "Pot in water", from unti'ya or unti', pot, and guli', "it is in the water" (or other liquid, habitually). The Suck, a dangerous rapid in Tennessee river, at the entrance of Suck creek, about eight miles below Chattanooga, Tenn.

Untalasgasti'yi - "Where they scratched"; a place at the head of Hyatt's creek of Valley river, in Cherokee county, N. C.
Untoola - see Dihyun'dula'
Untsaili'- (also Esaiyi' or Tsaiyi', the first syllable being almost silent) "Brass"
unwada'li - store-house, provision house.
Unwada-tsu'gilasun' - "Where the storehouse (unwada'li) was taken off". Either Black Rock or Jones' Knob, northeast of Webster, on the east line of Jackson county, N. C.
unun'ti - milk
usdi'ga - (abbreviated usdi'), small; plural tsundi'ga, tsundi'
usga'se'ti'yu - very dangerous, very terrible; intensive of usga'se'ti.
Uskwale'na - "Big-Head", from uska', head; a smaculine name, perhaps the original of the "Bull-head", given by Haywood as the name of a former noted Cherokee warrior.
Uskwa'li-gu'ta - "His stomach hangs down", from uskwa'li, his stomach, and gu'ta, "it hangs down". A prominent chief of the Revolutionary period, known to the whites as Hanging-maw.

U'stana'li - (from U'stanala'hi or uni'stana'la (a plural form), denoting a natural barrier of rocks (plural) across a stream) - a name occuring in several places in the old Cherokee country, and variously spelled Eastinaulee, Eastinora, Estanaula, Eustenaree, Istanare, Oostanaula, Oostinawley, Ustenary.

u'stuti - see utsu'gi
Ustu'tli - a traditional dangerous serpent. The name signifies having something on the calf of the leg or on the heel, from ustutun'i (his) calf of the leg (attached). It is applied also to the Southern hoop-snake.

Usunhi'yi - the "Darkening land", "where it is always getting dark", as at twilight. The name used for the west in the myths and the sacred formulas; the common word is wude'ligun'yi, "there where it (the sun) goes down".

u'tanu - great, fully developed. Cf. e'gwa.
utawa'hilu - "hand breadth", from uwa'yi, hand. A figurative term used in the myths and sacred formulas.

U'tawagun'ta - "Bald place". A high bald peak in the Great Smoky range on the Tenn.-N. C. line, northeast from Big Pigeon river.

U'tlun'ta - "He (or she) has it sharp", i.e., has some sharp part or organ; it might be used of a tooth, a finger-nail, or some other attached part of the body.

U'tluntun'yi - "U'tlun'ta place"; see U'tlun'ta. A place on Little Tennessee river, nearly off Citico creek, in Blount county, Tenn.

U'tsala - "lichen"; another form of utsale'ta. A Cherokee chief of Removal period of 1838.

utsale'ta - lichen literally, "pot scrapings", from a fancied resemblance.
utsa'nati' - rattlesnake; the name is of doubtful etymology but is said to refer to the rattle.

Utsa'nati'yi - "Rattlesnake place". Rattlesnake springs, about two miles south from Charlestown, Bradley county, Tenn.
utset'sti - "he grins" (habitually). See si'kwa, utset'sti,
utsi' - her (his) mother; etsi', agitsi', my mother.
Utsi'dsata' - "Corn-tassel", "Thistle-head", etc. It is used as a masculine name, and was probably the Cherokee name of the chief of Revolutionary times, known as "Old Tassel".

utsu'-gi - the tufted titmours (Parus bicolor); also called u'stuti', topnot, or tip, on account of its crest.
u'tsuti' - fish. Also, many.
Uwaga'hi - (commonly written Ocoee) -"Apricot place", from uwa'ga, the "apricot vines", or "maypop" (Passiflora incarnata), and hi, locative. A former important settlement on Ocowe river, near its junction with Hiwassee, about the present Benton, in Polk county, Tenn.

uwa'yi - hand, paw, generally used with the possessive suffix, as uwaye'ni, "his hand"
uwe'la - liver
uwe'nahi - rich, used also as a personal name
Uw'tsun'ta - "Bouncer" (habitual); from k'tsi, "it is bouncing". A traditional serpent described as moving by jerks like a measuring worm, to which also the name is applied.
Uyahye' - a high peak in the Great Smoky range, probably on the line between Swain county, N. C. and Sevier county, Tenn.
Uy'gila'gi - abbreviated from Tsuyu'gila'gi, "where there are dams", i.e., beaver dams; from gu'gilu'unsku', "he is damming it". 1. A former settlement onOothcaloga (Ougillogy) creek of Oostanaula river, near the present Calhous in Gordon county, Ga. 2. Beaverdam creek, west of Clarksville, in Habbersham county, Ga.

Valleytown - see Gu'nahitun'yi
Vengeance creek - see Gansa'ti'yi

Wachesa - see Watsi'su
wadan' - thanks!
wa'di - paint, especially red paint
wa'dige'aska'li - "his head (is) brown", i.e., "brown-head"; from wadige'i, brown, brown-red, and aska'li, head; the copperhead snake.

Wadi'yahi - a feminine name of doubtful etymology. An expert basket-making woman among the East Cherokee, who died in 1895. She was known to the whites as Mrs. Bushyhead.

Wafford - see Tsuskwanun'ta
Wa'ginsi - the name or an eddy at the junction of Little Tennessee and the main Tennessee rivers at Lenoir, in Loudon county, Tenn. The town is now known to the Cherokee by the same name, of which the meaning is lost.
waguli' - whippoorwill; the name is an onomatope; the Delaware name is wekolis
Wahnenauhi - see Wani'nahi
wa'huhu' - the screech-owl

wa'ka - cow; from the Spanish vava, as is also the Creek waga and the Arapaho wakuch.
wala'si - the common green frog,
Walasi'yi - "Frog place". 1. A former settlement, known to the whites as Frogtown, upon the creek of the same name, north of Dahlonega, in Lumpkin county, Ga. 2. Le Conte and Bullhead Mountains in the Great Smoky range on the N.C.-Tenn. line, together with the ridge extending into Sevier county, Tenn., between the Middle and West forks of Little Pigeon river.

walas'-unul'sti - "it fights frogs", from wala'si, frog, and unul'sti, "it fights" (habitually); gu'lihi', "I am fighting". The Prosartes Lanuginosa plant)

Walas'-unulstiyi' - "Place of the plant", walas'-unul'sti, commonly known to the whites as Fightingtown, from a translation of the latter part of a name; a former settlement on Fighting creek, near Morgantown, in Fannin county, Ga.

Walini' - a feminine name, compounded from Wali, another form of Kwali, "Polly" with a suffix added for euphony

Wane'-asun'tlunyi- "Hickory footlog place", from wane'i, hickory, asun-tlun'i (q.v.) footlog, bridge, and yi, locative. A former settlement, known to the whites as Hickory-log, on Etowah river, a short distance above Canton, in Cherokee county, Ga.

Wani'nahi' - a feminine name of uncertain etymology; the Wahnenauhi of the Wahnenauhi manuscript.
Washington - see Wa'situ'na
Wa'si - the Cherokee form for Moses.
Wa'situ'na, Wa'suntu'na - (different dialect forms), a Cherokee known to the whites as Washington, the sole survivor of a Removal tragedy. The name denotes a hollow log (or other cylindrical object) lying on the ground at a distance; the root of the word is asi'ta, log, and the w prefix indicates distance.
Wa'sulu' - a large red-brown moth which flies about blossoming tobacco in the evening.

Wata'gi - (commonly written Watauga, also Wataga, Wattoogee, Whatoga, etc.) a name occurring in two or more towns in the old Cherokee country; one was an important settlement on Watauga creek of Little Tennessee river, a few miles below Franklin, in Macon county, N. C.; another was traditionally located at Watauga Old Fields, about the present Elizabethton on Wateuga river, in Carter county, Tenn. The meaning is lost.

Watau'ga - see Wata'gi
Watsi'sa - a prominent old Cherokee, known to the whites as Wachesa, a name which cannot be translated, who formerly lived on Beaverdam creek of Hiwassee river, below Murphy, in Cherokee county, N. C. From the fact the Unicoi turnpike passed near his place, it was locally known as Wachesa trail.

wa'ya - wolf; an onomatope, an imitation of the animal's howl; cf. the Creek name, yaha.
Wa'ya'hi - "Wolf place", i.e., place of the "Wolf clan; the form Ani'Wa'ya'hi

is not used. Wolftown settlement on upper Soco Creek, on the East Cherokee Reservation, in Jackson County, North Carolina.
Waya Gap - see A'tahi'ta
Wayeh - see Wayi
Wayi - "Pigeon"; the modern Cherokee name for Big Pigeon River, in western N. C.; probably a translation of the English name. It appears as Wayeh.
Welch, Lloyd - see Da'si'giya'gi
wesa - cat
White-path - see Nunna'hi-tsune'ga
Willstown - a former important settlement, so-called from the half-breed chief known to the whites as Red-headed Will, on Will's Creek below Fort Payne, in Dekalb County, Ala. The settlement was frequently called from him Wili'yi, "Will's place", but this was not the proper local name.

Wilsini' - The Cherokee name for H. W. Spray, agent and superintendent for the East Cherokee Reservation; an adaptation of his middle name, Wilson.

Wil-usdi' - "Little Will," from Wili', Will and usdi'ga or usdi', little. The Cherokee name for Col. W. H. Thomas, for many years the recognized chief of the eastern band.
Wissactaw - see gahawi'stia
Wolftown - see Wa'ya'hi
Wootassite - see Outacity
Wrosetasatow - see Outacity
Wude'ligun'yi - the west; literally "there where it (the sun) goes down." (w prefixed implies distance, yi, locative). See also Usunhi'yi and wusuhihun'yi

Wuliga'natutun - excelling all others, either good or bad; it may be used as equivalent to wastun, "beyond the limit."

wusuhihun'yi - "there where they stay over night," i.e., "the west." An archaic term used by the narrator of the story of Untasaiyi'.

Xuala - see Ani-Suwa'li

ya - a suffix denoting principal or real, as tsiskawa'ya, "principal bird," the sparrow; Ani'-Yunwiya', "principal or real people," Indians

Yahula'li - "Yahu'la place," from Yuhu'la, a Cherokee trader said to have been taken by the spirit people; Yahu'la, seems to be from the Creek yoho'lo, a name having reference to the song (yoholo), used in the "black drink" ceremony of the Creeks; thus a'si-yoho'lo, corrupted into Osceola, signified "the black drink song"; it may, however, be a true Cherokee word, yahu'lu or yahy'li, the name for a variety of hickory, also for the "doodle-bug"; Unyahu'la is a feminine name, but cannot be translated. Yahoola Creek, near Dahlonega, in Lumpkin County, Ga.

Yala'gi - Alarka Creek of Little Tennessee River, above the junction of Tuckasegee, in Swain County, North Carolina; the meaning of the name is lost.

yandaska'ga - a faultfinder

Yan-e'gwa - "Big-Bear", from yanu bear, and egwa, great, large. A prominent chief about the year 1800; the name occurs in treaties as Yonah, Yohanaqua and Yonahequah.

ya'nu - bear
Ya'nu-dinehun'yi - "where the bears live", from yanu, bear, dinehu' "they dwell" (e'hu, "I dwell, I live") and yi, locative. A place on Oconaluftee river, a short distance above the junction with Tuckasegee, in Swain co., N.C.

Yanugun'ski - "the bear drowns him" (habitually), from yanu, bear, and tsigun'iska', "Iam drowning him". A noted East Cherokee chief, known to the whites as Yonaguska or Drowning-bear.

yan'-utse'stu - "The bear lies on it", the shield fern (Aspidium)
Ya'nu-u'natawasti'yi - "where the bears wash", (from yanu, bear, and yi, locative); a former pond in the Great Smoky Mountains, about the head of Raven Fork, in Swain county, N. C.

Yawa'i - "Yawa place"; a place on Yellow creek of Cheowa river, in Graham county, N. C.
Yellow-Hill - see Elawa'diyi
Yohanaqua - see Yan-e'gwa
yoho-o! - an unmeaning song refrain
Yonaguska - see Ya'nugun'ski
Yonah - 1. (mountain) see Gadalu'lu. 2. An abbreviated treaty form for the name of the chief Yana'gwa.
Yonahequah - see Yan-e'gwa
Ytaua, Ytava - see I'tawa'
Yu! - an unmeaning song refrain and interjection
Yuha'li - Euharlee creek, of lower Etowah river, in Bartow, Ga. The name is said by the Cherokee to be a corruption of Yufala (Eufaula), a well known Creek local name.

yunsu' - buffalo, cf. Creek yena'sa, Choctaw yanash, Hichitee ya'nasi
Yunsa'i - "Buffalo place"; West Buffalo creek of Cheowa river in Graham county, N. C.; the site of a former Cherokee settlement.
yun'wi - person, man
Yun'wi Ama'yine'hi - "Water-dwelling people", from yun'wi, person, and ama'yine'hi, plural of amaye'hi, q.v., a race of water fairies.

Yun'wi Gunahi'ta - "Long Man"; a formulistic name for the river, personified as a man with his head resting on the mountain and his feet stretching down to the lowlands, who is constantly speaking to those who can understand the message.

Yun'wini'gisgi - "man-eaters", literally, "They eat people"(Habitually), from yun'wi, person, man, and uni, giski, "they eat (habitually), from tsikiu', "I am eating"; the Cherokee name for a distant cannibal tribe, possibly the Atakapa or the Tonkawa.

Yun'wi-tsulenun'yi - "where man stood", originally yon'wi-dikatagun'yi, "where the man stands", from Yun'wi, person, man, tsita'ga, "I am standing" and yi, locative; Standing Indian, a high bald mountain at the head of Nantahala river, in Macon county, N. C.

Yun'wi Tsunsdi' - "little people," from yun'wi, person, people, and tsunsdi'ga or tsunsdi, plural of usdi'ga or usdi', little; the Cherokee fairies.

Yun'wi Usdi' - "little man." A formulistic name for ginseng, a'tali-guli, q.v.

Yun'wi-usga'se'ti - "dangerous man, terrible man"; a traditional leader in the westward migration of Cherokee.

Yun'wiya' - "Indian", literally, "principal or real person, "from yun'wi, person, and ya, a suffix denoting principal or real.

yu'we-yuwehe' - an unmeaning song refrain.

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